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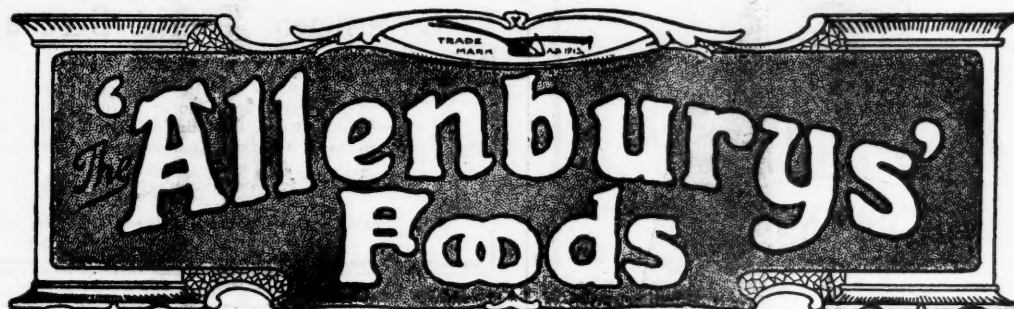
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SYDNEY: SEPTEMBER 30, 1916.

No. 14.

THE EXHIBITION OF DRUGS IN OBSTETRIC PRACTICE.¹

By T. W. Lipscomb, M.B., M.S. (Sydney),
Sydney.

In bringing this phase of obstetric work under your notice, I will content myself by giving my own personal experience, for, after all, that is what is wanted in such a discussion as this.

In considering any line of treatment adopted in midwifery, one has to take into account five main factors, *viz.*, (1) the patient, both in labour and subsequent recovery, (2) the infant, (3) the medical attendant and nurse, (4) the patient's relatives and friends, and, lastly, but not unimportant, the State and birth-rate factor.

Sedatives.

Now in regard to the giving of sedatives in labour, in my student days we were advised in cases of prolonged labour, especially in primiparæ showing signs of exhaustion and a rising pulse, to give chloral hydrate in 30 grain doses, and if not retained, to give it *per rectum*. Besides giving the patient sleep, chloral was supposed to have specific action in relaxing the rigid *os uteri*. I generally found that the majority of patients with prolonged labour had more or less vomiting, and invariably the chloral was rejected; even when vomiting had not occurred, it set in promptly after taking chloral. I persevered with rectal injections of chloral, but I never saw it do the least good.

At that time some authorities recommended the local application of cocaine to the rigid *os*, but I never used it. Then it was that I started the practice of using hypodermic injections of morphine (gr. $\frac{1}{4}$) with atropine (gr. $\frac{1}{150}$), but only in cases obviously becoming exhausted from ineffectual uterine contractions; and with happy results. I candidly admit that I was nervous as to the effect of the morphine on the circulation of the infant; but, finding no ill-effects, I used it more frequently, and in a slow labour administered it before any signs of exhaustion presented. I found a rising pulse was the best guide for its need.

When I read the first reports of combining hyoscine hydrobromide with the morphine I used it straight away, and since then have always given hyoscine hydrobromide (gr. $\frac{1}{100}$), with morphine sulphate (gr. $\frac{1}{4}$), and atropine sulphate (gr. $\frac{1}{150}$).

For the past 18 months I have not done so much midwifery work, as I have assistance in my practice; but for some years prior to that time I used to average 180 to 200 cases a year. I am referring to cases of seven months' gestation upwards. I do not place the early cases in my midwifery notes,

but class them among premature labours and abortions.

Practising, as I do, in a district where the artisan class predominates, I found that at least 35% to 40% of my patients were primipara. For instance, in 1913 I attended 70 first labours, and in 1914 I attended 87. The reason for this is that, for economic reasons, the patients try to manage without a medical man as their families increase.

Consequently, I have seen a considerable number of cases of protracted labour, and my verdict is that, in these cases, in the first stage of labour, a hypodermic injection of the drugs in the doses indicated is invaluable, and I have never had any suspicion of ill-effects on the mother or the infant.

Only on few occasions have I given a second injection, and then not within 16 hours of the first injection. My results with it have been very happy. After 15 to 20 minutes the patient feels drowsy. I then instruct the nurse to darken the room and keep the patient quiet; and I can leave her without any qualms. My experience teaches me that the patient has three to four hours good sleep, sometimes twisting about with an extra-strong uterine contraction, followed by a half sleep stage of variable duration, usually one to two hours, in which every contraction rouses her, and as the pain passes off she slumbers again, at times rambling. The effect of the injection has, as a rule, quite disappeared by the end of six hours, and when the patient is again examined it is found that there is a remarkable softening down of the cervix, the *os* is thinned out, very often like tissue paper, and the presenting part of the child advancing satisfactorily.

I do not know whether I have been exceptional, but I seem to get more than a fair share of occipito-posterior cases in primiparæ, and, as we know, these cases are notoriously tedious and worrying to everybody concerned; it is just in these particular cases that the morphine-hyoscine combination is so useful.

Now let us turn back and consider the application of morphine-hyoscine injection in relation to the five factors I spoke of earlier.

(1) The effect on the patient in labour and subsequent recovery. In my experience it is absolutely safe to the patient; she does not become worn out in a long labour, and thus predisposed to post-partum hæmorrhage, as is so frequently the case after a long labour, when the uterine muscle becomes tired and fails to keep up tonic contraction. Naturally, the subsequent recovery of the patient is more rapid, as she has been saved a vast amount of physical and mental suffering.

(2) As regards the infant, in only one instance did I have any ill-effect at all, and artificial respiration had to be resorted to for ten minutes to induce the child to breathe freely. That was one of the

¹ Read at a Meeting of the New South Wales Branch of the British Medical Association on August 25, 1916.

cases in which a second injection had been given, and shortly after it uterine contractions set in strongly, and labour terminated within three hours of the second injection. The delay in the establishment of the infant's respiration was evidently due to the depressant action of the morphine on the respiratory apparatus, and I lay it down as a guide that a second injection is not to be given if the termination of labour is anticipated within three or four hours. It is the morphine that would be harmful in such cases, not the hyoscine.

(3) The effect of the use of the combination as regards the obstetric nurse and doctor in attendance is only of secondary importance to the well-being of the mother and infant; but if we are satisfied that the administration of such a drug is helpful to the mother and not harmful to the infant, then we have a right to consider this factor, that the use of the injection renders the labour much less irksome and trying to the nurse and doctor.

(4) The influence of the patient's relatives and friends is a very big factor in midwifery practice, and it is impossible to ignore it, especially when the attendance is in the patient's own home. In protracted labours, particularly with a first confinement, the anxious husband, ably supported by both prospective grandmothers, at every visit bombard one with the question, "Can't you do something, doctor?" and it is very poor consolation to inform them "They must have more patience," "That labour is progressing satisfactorily, but very slowly," and "The patient will be worse before she is better." I advise my brother practitioners in the protracted first stage of labour to give the patient an injection of morphine and hyoscine, and their lives will be a little easier, the patient's friends relieved and the patient herself considerably benefitted in her labour and subsequent recovery.

(5) The birth-rate and State factor comes into question because, if women know that advancing science can safely relieve them of some of the trials of labour, then it may be a little inducement for them to discontinue the use of preventives, and make them less liable to seek the aid of the abortionist.

I have no personal experience of the "twilight sleep" conduct of labour, in which a preliminary injection of morphine and hyoscine is given, followed at intervals by injections of hyoscine alone until labour is terminated. Such treatment is only permissible if there is a doctor in constant and unremitting attendance. That means that the patient must be in hospital, with a resident medical officer, or that the fee from a private patient must be commensurate with the time to be taken up by the practitioner in attendance, and all other professional work can stand aside.

I have tried heroin hydrochloride, or, as we should now call it, diacetyl morphine hydrochloride. but the result was not nearly so satisfactory as that obtained with morphine.

Now as to chloroform, I practically give it to every patient during the latter part of the second stage, and only to the stage of analgesia. I don't let the nurse drop it on the mask, but I direct her

to hold the mask toward me, and I drop it on myself. I think it safer.

When any obstetrical operation is necessary, such as turning, high forceps, introducing the hand into the uterus, requiring anaesthesia, if it is possible, I call in another medical man to administer the anaesthetic.

If any suturing of the perineum is required, I do it immediately after the birth of the child, while the patient is still analgesic and before delivering the placenta. I use catgut for the buried sutures and generally silkworm gut for the skin suturing, but not always, sometimes using catgut for the skin. I use No. 3 plain catgut, prepared by the ether and biniodide of mercury and spirit method.

Ecbolic Drugs.

Now let us turn our attention to drugs having an ecbolic action, and again I refer only to my own personal experience.

Ergot I never give until after the termination of the third stage, and usually then only if the pulse is 100 or over by the time I am ready to leave the patient. Sometimes, as a precautionary measure, I give it if the pulse is only 80 or 90, if the patient's home is some distance away or if I think that the nurse's knowledge of post-partum complications is somewhat lacking.

Pituitary extract is, in my opinion, of invaluable assistance in obstetric work. It is a most powerful drug, and can be most dangerous unless used with judgment and at the proper time. We know it is a most powerful ecbolic, and, like any other strong drug, we must know the science and art of our profession before administering it.

In our pharmacopœia we have many drugs equally as strong in their own way, for instance, digitalis, morphine, cocaine, croton oil, salvarsan; yet no practitioner would suggest off-hand that digitalis should be given to every patient with any abnormal cardiac condition. He will want to examine any heart case thoroughly and to know why he is giving digitalis and what are the right indications to lead him to prescribe it.

Similarly with salvarsan; we know that, given properly, it has given excellent results in the treatment of syphilis, and we know, also, that there have been no inconsiderable number of ill-effects from its use in unsuitable cases.

Just the same with pituitary extract. I feel sure that most, if not all, of the ill-effects have been produced because it either should not have been given at all, or it has been given at too early a stage.

It should not be used unless the patient in labour has been examined *per vaginam*, in order that abnormalities in the presentation of the infant or in the parturient canal may be excluded. It may be administered if the patient is in the extreme end of the first stage, with the infant's occiput presenting and the os fully dilated, or so dilated that the two examining fingers can be widely separated and its edge felt to be thinned out like tissue paper, or it may be given if the head is through the os and the second stage is delayed by infrequent or ineffectual pains. I give usually 1 c.cm., and inject

it deeply into the gluteus, and I never give it unless I intend to stay with the patient until the labour is terminated. As soon as I inject it I have my chloroform ready to use as soon as the contractions become more frequent and more sustained. I would no more think of using it without being ready to give chloroform than I would think of using forceps without giving chloroform. The action of the drug usually manifests itself in about five minutes, sometimes less, and the uterine contractions increase in frequency and strength until, finally, the infant is born, provided the injection is given at the right stage. Everything depends on that.

I am not at all surprised to read reports of rupture of the uterus after its use, because I feel sure such a calamity could easily follow its use, if it were given at any time before the parturient canal was in the condition I have indicated.

Chloroform is a most powerful drug, but, because there have been fatalities with it, we don't discontinue the use of it. The same applies to pituitary extract. Again, I have not come across any fulminating action of the uterus after its use, in which the contraction of the uterus never ceases until the child is expelled. I have read reports of this happening, and, fearing it, I tried the effect of small doses, from 0.2 to 0.25 c.cm., repeated at intervals, in primiparæ with a small vaginal outlet, where a rapid expulsion of the infant might cause extensive laceration of the perineum. But I never experienced any decided benefit in administering it that way, so reverted back to my old dose of 1 c.cm. Occasionally, why I do not know, one finds that increased contractions do not follow its use, and one has to resort to forceps.

I have not kept such elaborate and accurate records such as Dr. Hipsley presented in his admirable paper last meeting, but I do know that, since using pituitary extract extensively, I very rarely use forceps. I estimate that I used forceps four times as frequently as I do now.

Let us now return to our five factors:—

(1) I have never seen it do any harm to the mother at the time, nor have I seen any post-partum hæmorrhage follow its use. Indeed, the mother is benefitted, for it shortens her labour materially, and I am sure I have seen patients considerably worse after prolonged chloroform, finishing up with forceps, than with pituitary and a small amount of chloroform. It is of great assistance in the slow advance of breech presentations, once the os is fully dilated. It is certainly of benefit in profuse hæmorrhage in cases of incomplete abortion, before an endeavour is made to remove the retained decidua. Retention of urine is less likely after its use, partly because of the action of the drug increasing the output of urine, and partly because of the shortening of the period of pressure of the head on the base of the bladder and urethra. There is also a quicker separation of the placenta after its use.

(2) No harm is done to the infant, provided that, before using the drug, we are satisfied by examination that there is no abnormal presentation.

(3) Its use is certainly of benefit to the doctor and nurse by hastening the termination of labour

within the limits of safety. One old midwife, who has been working in this district for years before I came here, frequently sends a message asking me to visit a woman who has been in labour a long time and give her 3d. worth of "hurry-up." She, at any rate, has no doubt of its benefit as far as the nurse is concerned.

(4) Similarly, the patient's relatives and friends must be relieved at the safe termination of a slow labour.

(5) I know that since using the drug freely it is but very rarely that I use forceps, and, in consequence there is less handling. As we well know, manipulations in labour are the most fertile source of infection, and it is puerperal morbidity that is one of the main causes of decreased function in the reproductive organs of the female. Here again I fairly claim that the judicious use of the drug at the proper time has some influence on the birth-rate.

One action of pituitary extract not generally recognized is its effect on the intestinal muscle, particularly in cases of gaseous distension after abdominal sections. In my experience, its action in that condition is far superior to eserine.

The use of sedative injections and ecbolic drugs is a very vexed question; but, speaking for myself, my midwifery work is much less trying to myself since I have used these measures, and I am convinced that their use has considerably benefitted my patients.

In conclusion, I would like to add a few remarks on the other practices that I follow. I enquire from the prospective patient about her general health and her excretory organs, examine the urine at the beginning of the eighth and ninth month, and instruct her to report if headaches are frequent, or if interference with vision or any swelling of the ankles occurs. In the case of primiparæ I instruct them to prepare their nipples with methylated spirit.

I do not use gloves unless I have knowingly contaminated my hands within 24 hours previously. The gloves I like best of all are yellow gloves, made by the Colonial Rubber Co., in Melbourne; they are slightly roughened, the roughening being about midway between a plain glove and the American "never slip." I might add I do not possess any interest in the company. When washing my hands I have no antiseptic in the water, but merely use a boiled nail-brush and soap, preferably Castile. I keep my hands in good condition in that way. Antiseptics, such as mercurials and soapy solutions of cresylic acid, are extremely rough on the skin, and once the skin is roughened and knocked about it is very hard to be certain that the hands can be rendered reasonably aseptic. The only time I use any antiseptic is when using forceps, then I add some soapy solution of cresylic acid to the water, purely for its lubricant effect, or dip my hand in a similar solution if I have to insert my hand into the uterus.

Above all, one needs an infinite amount of patience for obstetric work, and I never go to a case without first making sure I have my pipe and tobacco with me and some literature. I have done a great amount of my reading of journals while waiting at such

cases. If the anxious husband is about and wants to talk, I send him off to the chemist for something quite immaterial that the nurse may possibly make use of during the puerperium.

THE TREATMENT OF ADHERENT PLACENTA.¹

By D. Kelly, M.B., B.S.,

Senior Surgeon, Mater Misericordiae Hospital.

The treatment of adherent placenta is of as great, if not greater, importance than the management of labour during the first and second stages. It is not necessary to refer to the management of the third stage of a normal labour, and my remarks will be confined to the placenta and membranes adherent for some time after the birth of the child, or to portions of these structures remaining in the uterus for days or weeks. No time-limit should be adopted as to when attempts should be made to remove the placenta by expression or other means, and undue haste will often lead to subsequent trouble.

Placenta that show no signs of separating in one or two hours, and give all the appearances of adherence, if left for six or more hours will often then be found detached and easy for expulsion.

It has been shown that, in labour conducted under aseptic conditions, placenta may remain in the uterus for as long as ninety hours, without causing any untoward symptoms, such as sapremia.

If hæmorrhage is occurring, it means that some portion of the placenta is separated, and methods must be adopted to remove it. If the placenta is completely attached or detached, its presence in the uterus does not *per se* cause hæmorrhage. In fact, if the placenta is completely attached, bleeding cannot occur. Yet, if one is convinced that the placenta will not separate naturally, one must then remove it.

The question is: how should it be removed?

Gentle expression may be tried, and will probably fail. Violent expressive measures should never be used, and yet one occasionally sees an accoucheur tiring himself by pressing violently with both hands and using all his body weight on the uterus. If he should succeed, he may find a ragged placenta, portions of which may be retained.

My own procedure has been to steady the uterus with the right hand on the abdomen, and then to introduce the gloved left hand into the uterus. If a portion of the placenta is separated this is used as a starting-point. Working slowly from this situation, I gradually separate the placenta from the uterus with the fingers. The placenta should always be kept in one piece, if possible, and when separation is complete the whole structure is withdrawn slowly in the palm of the hand.

Irrigation is unnecessary, unless hæmorrhage is severe, and then the irrigation is to arrest hæmorrhage and not to prevent sepsis.

A young practitioner, on inserting his hand into the uterus, will fear that all is lost, including his

arm and hand, for the fundus itself will expand, whilst the cervix will contract round the wrist and forearm. A little manipulation, however, with his right hand will give him his bearings.

Opinions differ in regard to the use of gloves in this procedure. Personally, I cannot understand why the same courtesy is not extended to the uterus as to the peritoneal cavity, especially as the former is less resistant to infection. It will be remarked that the organisms are already in the vagina, and are carried into the uterus by the hand. But I think that it has yet to be proved that these organisms are the cause of the septic troubles which follow confinements. My own opinion is that all these infections are caused by strange organisms present on the fingers of the accoucheur. If the practitioner will wear gloves in all his work, he will find it just as easy to carry out intra-uterine as intra-abdominal manipulations. It is a very rare thing now-a-days to see an abdominal surgeon working without gloves.

I wish now to deal with the treatment of portions of retained placenta or membranes. It is not always easy to determine by examination whether small pieces of placenta or membrane have been left behind. The retention of portions of membrane, while not so important as the retention of portions of placenta, may lead to subsequent trouble. As soon as it is certain that pieces of placenta have been left within the uterus, their removal should be accomplished at once. These pieces are usually found in one of the cornua, and should be scraped away with the finger. Membranes frequently separate spontaneously, and come away with a clot two or three days later. If large pieces are found, it is advisable to remove them manually.

If the placenta has not been examined, and in general practice this procedure is sometimes neglected, because an officious nurse has destroyed it before the arrival of the doctor, elevation of temperature will indicate some degree of sepsis, and will suggest the possibility of retention. Careful examination should be carried out, and the diagnosis arrived at by a process of exclusion. There is, however, frequently no rise of temperature, and yet the patient does not feel well. There is headache, poor involution, profuse, bright discharge, and, a sign that is very important, the pulse-rate is maintained at a higher level than normal. Bimanual examination reveals an open *os uteri* and an unduly enlarged uterus. A temperature of 38.6° C. (102° F.) on the fifth day or later, either accompanied by a rigor or not, and combined with signs and symptoms referred to above, indicates retention. The temperature may remain normal for two or three days, but it will again become raised. After retention has been determined, what treatment should be adopted? Intra-uterine douching is useless. The retained secundinæ should be treated as foreign bodies, that is, removed by the finger or by the blunt curette. If the curette is used, it is a good plan to examine with the finger, to make sure of completion, for there is no operation in which the work is carried out so much in the dark as that of curetting. When we are unable to use the special sense of sight, it is wise to employ that of touch.

¹ Read at a Meeting of the New South Wales Branch of the British Medical Association on August 25, 1916.

After the curetting is finished, it is advisable to give an intra-uterine douche under low pressure. There is small likelihood that the fluid will pass through the tubes, since there is so free a passage through the os. It goes without saying, that, when curetting the body of the uterus, the process must be controlled by the right hand, and hæmorrhage, which is often very severe, is best checked by the right hand pushing down and kneading the uterus on three fingers or even the whole left hand in the vagina.

In conclusion, I would like to assert, notwithstanding statements to the contrary, that it is possible to perforate the uterus with the curette. This has happened to the most skilful operators. The trouble is not so much in the perforation as in its recognition. You all know of the famous case in which the operator, after perforating the uterus, pulled down through the hole three feet of intestines and cut them away, thinking that they were membranes. The majority of surgeons who have operated frequently in the pelvis have met with the scar in the uterus, where a curette had previously passed through.

THE DETERIORATION OF SWEETENED CONDENSED MILK.¹

By Thomas Cooksey, Ph.D., D.Sc., F.I.C.,
Government Analyst, N.S.W.

The deterioration of condensed milk is a matter of great concern, not only to the public who may be purchasers, but also to the manufacturers, who frequently appear unable to control or prevent the changes which take place after canning. As sweetened condensed milk is largely used as a food for infants, the article itself and its mode of preparation should be above suspicion. During a considerable number of years many samples of this class of food have been submitted to me for examination, and I have been compelled to condemn a large number as unfit for consumption. I thought, therefore, it would perhaps be of interest if a few notes I have made on the subject were brought before this Section of the Royal Society.

Before giving my own experience, I would like to refer you to a paper written by Dr. George H. Pethybridge, of the Royal College of Science, Dublin, and published in 1906. The author took up an examination of this matter, more especially with regard to blown tins, in the interests of an Irish Milk-Condensing Company which had been considerably troubled on this account. The manager remarked: "We do not get blown tins in each batch; like any other disease, it is erratic. Sometimes for months we won't have a single blown tin. Then, without any apparent change in the mode of manufacture, we get a lot. Or, perhaps, a batch made on some particular day will go wrong, and every other batch will be right. The blowing usually shows itself about six weeks after tinning. The samples were prepared from separated milk and cane sugar."

Dr. Pethybridge found that there was considerable pressure in the tins, owing to accumulated gas. The colour of the milk, however, was scarcely different from that of a sound tin. There was no unpleasant taste, but a faint alcoholic smell was perceptible. On pouring out the milk a number of clots were noticed. These were fairly firm in texture, but on shaking well they gradually dissolved and gave a milky solution. They are not present in the milk of sound tins. An examination of them under the microscope revealed abundance of micro-organisms, most of which appeared dead—as if killed by heat—but a number apparently alive were also observed. Cultures made from the unclotted milk showed that, although not sterile, it was on the whole very free from living micro-organisms. No prevailing form of any kind could be found in sufficient quantity to suggest that it might be the cause of the blowing. On examining the clots, however, Dr. Pethybridge found two varieties of budding yeasts,—or more properly *torula*,—one oval and one spherical in form. Besides the two yeasts he found two forms of cocci, but in considerably smaller number. He formed the opinion that the two yeasts found caused the blowing of the tins. He came also to the conclusion that these yeasts were derived from the milk and withstood the subsequent heating during manufacture. His advice was that more care should be taken to keep the milk clean and free, as far as possible, from contamination.

I would also like to refer you to a report by Dr. F. J. H. Coutts to the Local Government Board on an enquiry as to condensed milks, published in 1911. This report contains a very full account of the mode of manufacture of sweetened condensed milk, together with a large number of analyses of its constituents and the proportions contained therein. In regard to the bacteriological examination, he remarks: "Until recent years condensed milk has been looked upon as a particularly sterile product, in consequence of the temperature to which the milk is subjected in the preliminary processes. Recent investigations have shown, however, that living organisms are always present in ordinary sweetened full-cream and machine-skimmed milks, and sometimes in considerable numbers. Fully sweetened condensed milk in unopened tins may remain apparently perfectly good for months or even years, the micro-organisms present being unable to develop in the strong saccharine solution. But, on the other hand, it is generally known in the trade that a considerable number of tins become blown by the evolution of gas, due to the development of micro-organisms."

Various other investigators have published results of their examination of condensed milk. In 1898, Dr. Hope, of Liverpool, reported that only one out of 34 samples examined appeared free from organisms. At the Brighton Municipal Laboratory, Dr. Heggs, in 1905, found living organisms present in each of twelve different brands examined. Dr. Meredith Young, Medical Officer of Health, Marylebone, in 1908, certified as unfit for consumption three samples of condensed milk in which he found a

¹ Read at a Meeting of the Section of Public Health and Kindred Sciences of the Royal Society of New South Wales on October.

streptococcus, *bacillus subtilis*, and a micrococcus. Klein, in 1909, came to the conclusion that all brands of sweetened condensed milk contained microbes, aerobic and gas-forming anaerobic, in varying numbers. He found among them streptococci, various kinds of bacilli, including *bacillus subtilis*, diplococci, staphylococci, yeast cells, etc. The presence of acid and gas-forming microbes was discovered in several instances, while 19 out of 32 samples showed the presence of sporing anaerobes capable of clotting milk or of causing the "enteritidis change." Dold and Garrett examined 20 different brands, and found none sterile, not even an unsweetened full-cream milk supposed to be sterilized after condensation. The bacteria in the full-cream milk varied from 700 to 11,000 per c.cm., while the machine-skimmed milks contained from 20,000 to 120,000 organisms per c.cm. Drs. Gordon and Elmslie came to the conclusion, after examining a number of tins of milk, that some of these organisms are derived from the milk and survive the heating process. Two are mentioned by them as having been derived from the original milk, viz., *streptococcus faecalis* and an anaerobic spore-bearing bacillus.

The evidence is conclusive, therefore, that the finished product contains a considerable number of micro-organisms of various kinds, some of which have been derived from the original milk and have survived the process of manufacture, notwithstanding the heat employed and the presence of a large amount of sugar.

From a survey of the work done in regard to the bacteriological examination of condensed milk, and more especially in cases in which specific micro-organisms can be obtained by cultivation, it is a natural assumption that the changes which are noticed in the milk are due to bacteriological action.

I would like now to draw your attention to some samples of condensed milk which I have with me, and which show deterioration easily perceptible to the senses in at least four distinctly different forms. All these samples I regard as unfit for consumption.

Form I.—In this case we have a blown tin, that is, the ends of the tin are bulged outwards, due to gas pressure. The milk shows practically no discoloration, but is clotted to some extent. The taste is not unpleasant, and the odour suggests to me that of a dough. The acidity is 0.42%; this is higher than that of a normally good condensed milk. The blowing of the tin is caused by the fermentation of the cane sugar, produced by yeasts, which were present in two forms and in considerable numbers.

In the three following cases of deterioration the tins usually show no signs of blowing until the decomposition has proceeded to a very considerable extent.

Form II.—In tins showing this form of deterioration we observe clots adhering to the top and sides of the tin. These clots are of a varying brownish colour, the centres being darker than the adjacent portions, though the whole of the milk may at times be more or less brown. On a closer examination it is found that the acidity of the substance has increased, and that there is a consequent curdling of the nitrogenous matter. The acidity is also found

to vary considerably in the milk taken from different parts of the tin, the clotted portions having the higher acidity, amounting in some cases to as high as 0.72%. The taste of this milk is generally not unpleasant, except in cases of high acidity. The odour is different to that of a normally good sample, suggesting slight rancidity. The change usually takes place first at the top of the tin, the clots being found mostly in that position. This is a fact well known to the manufacturers, for, on one occasion, I found that a number of samples of this class of milk, which had been seized on the Sydney market and submitted to me for examination, had had the labels inverted, in order that the purchaser might open the tin at the end where the least change had taken place. This form of deterioration, I think, goes on slowly, and is mostly found in old samples. From samples of this class a bacillus of the *subtilis* type, amongst others, was obtained.

Form III.—These tins show no signs of blowing, though the contents are slightly discoloured. The consistency of the milk has increased considerably, and the odour is unpleasant. The taste is disagreeably cheesy, and suggests putrefaction. The milk is more or less curdled, possessing an acidity of 0.4%. The change in this article may go on until the whole contents of the tin take on a firm, solid, cheesy character, and become quite immiscible with water. A coliform bacillus and a spore-bearing bacillus of the *subtilis* type were obtained by cultivation.

Form IV.—In samples showing this change the tins are not blown, nor are the contents discoloured, but the consistency of the milk has increased considerably. This is due to a partial curdling of the nitrogenous matter. The acidity was found to be as high as 0.52%, and the appearance suggests that the original milk taken for condensation, although probably not curdled, was much too acid. The taste is slightly acid, but otherwise both taste and odour are not unpleasant. A bacterial examination gave staphylococci, *bacillus subtilis*, *bacillus mesentericus* and yeasts.

With the exception of the first form of deterioration, where the blowing of the tins is immediately perceptible, the fact that a change has taken place in the contents is not apparent until the tin is opened. It is evident that an increase in the acidity always accompanies these changes, and with it more or less curdling, the latter being due partly to precipitation by the acid formed and partly to other bacteriological action. I always view with suspicion a condensed milk possessing an acidity much above 0.3%.

The four forms of deterioration just described are no doubt due to the preponderating growth of a particular organism or group of organisms which bring about in each case a more or less definitely characterized change.

In conclusion, I would like to point out that the practical means of preventing the deterioration of sweetened condensed milks is to ensure that the processes of condensation and canning shall be carried out in as scrupulously clean and careful a manner as possible; also, that the same care and attention should be bestowed on the handling of the fresh

milk before it arrives at the factory. It is important that only milk which is quite fresh should be used. In one factory I visited I was told that milk with an acidity of 0.2% was useless for condensing purposes, as it produced an unsatisfactory article. I am inclined to think that this limit for acidity is too high. Although such a milk may not have reached the curdling stage, there is a strong probability that, on being subjected to the heating and condensing process it would suffer a partial curdling, which would be shown by a thickened product liable to further change after canning.

Reports of Cases.

SERUM TREATMENT OF HÆMORRHAGE OF THE NEWLY-BORN.

By E. Ludowici, M.B., Ch.M.,

Honorary Assistant Surgeon and Honorary Medical Registrar,
The Women's Hospital, Sydney.

Hæmorrhage of the newly-born was, until a few years ago, one of the most fatal infantile complications. The latest and most successful treatment for cases not due to sepsis is by the injection of blood or serum, or some preparation of serum, into the veins or subcutaneous tissues, in order to supply or induce the formation of substances necessary for coagulation.

The case which I present to-night is one of a male infant born apparently healthy. The labour was normal, and the mother healthy (a Wassermann test proving negative). No history of hæmophilia was obtained, and the other children were healthy.

Within 48 hours of the birth the caput began to enlarge and a large tumour ultimately formed. Blood oozed from the umbilicus and the mucous membranes of the nose, mouth and anus. Subcutaneous hæmorrhages also appeared. The child lost weight, and on the third day, when I saw it, it was very ill. Blood to the amount of 10 c.cm. was removed from the mother and allowed to clot. The serum was then injected into the subcutaneous tissues of the infant's abdomen. A few hours after the injection it began to revive and the hæmorrhages ceased. A second injection was given the next day. No further injection was required, although in some cases several injections have been given with success.

The blood extravasated in the tissues was gradually absorbed, with the exception of the collection under the scalp, which was ultimately evacuated by incision. The child made a good recovery.

Many cases of successful treatment by injection of blood are on record. My reason for bringing this case before you to-night is in order to show that the simplest method, i.e., the injection of blood serum taken from the mother, is quite effective in the worst cases. Reports show that, where time is important, whole blood may be injected at once, without waiting for the serum to separate.

Transfusion of blood has been recommended, but is not an easy operation to perform, and requires special apparatus. Horse serum has been found quite suitable, but may not always be obtainable, and subjects the infant, should it require injections of anti-diphtheritic or other serum, later on in life, to serious risk of anaphylaxis.

The injection of its mother's blood or serum does not subject the infant to any risk as might happen if the blood be taken from any other person, for even if she be syphilitic the chances are that the child is also already infected. There is no fear of anaphylaxis arising later on, should injections of anti-diphtheritic serum, etc., be required. The operation needs no apparatus beyond a serum or exploratory syringe, and requires no special skill.

Cæsarean Section in Contracted Pelvis: One Case Complicated by Pyelitis and One Case Complicated by Both Pyelitis and an Eclamptic Fit.

Case I.—A primigravida had been in labour for 48 hours before admission, and attempts to deliver by forceps had been made. On admission to the Women's Hospital her temperature was 100° F., her pulse-rate 130 and her respirations 25. The urine contained one-half albumin. After preparation, Cæsarean section was done and a male child delivered alive. On the fourth day after operation she developed mucous diarrhoea, which lasted for three days and cleared up with *mist. cretæ c. opio*. The temperature from day of operation fluctuated between 101° and 99°. I considered that pyelitis was the cause of the fever, the urine being found after operation to contain pus and *b. coli communis*. On the twentieth day the lochia were quite inoffensive, scanty and pale, but as the elevation of temperature persisted I explored the uterus and found nothing, with the exception of a little shreddy material, which was sterile. On the twenty-sixth day, i.e., six days after exploration, the lochia were entirely absent. The temperature did not fall until thirteen days after the exploration. The pus gradually disappeared from the urine about the same time.

Case II.—A primigravida had been in labour for 22 hours before admission. No attempt at delivery had been made. On admission, it was found impossible to push the head into the pelvis. The urine was acid and the specific gravity 1020. There was a trace of albumin. The temperature was normal. After operation, the temperature varied from 100° to 99° until the ninth day, when it rose to 130°. *Bacilli coli communis* were then found in the urine. Although there was nothing offensive in the lochia, which were "moderate and brown," I explored the uterus without discovering anything unusual. Two days after exploration, the patient had a distinct eclamptic fit, lasting about two minutes. The lochia were quite absent on the fifth day, and the temperature, which had remained high for five days, gradually decreased, and became normal on the twenty-second day after exploration.

In both cases the urinary condition was treated by potassium citrate. Although the length of time that the patients had been in labour and the interference they had necessarily been subjected to made one think of intra-uterine sepsis, the condition of the lochia and the state of the urine contradicted this view. Nevertheless, I felt that it was safer to explore the uterus, and in doing so the patients suffered no harm. My method of exploring is to introduce the large ring curette and gently and systematically to rake the interior of the uterus, afterwards giving a saline douche, and leaving some iodoform gauze in the uterine cavity for 18 hours, as a precaution against hæmorrhage. The procedure is not a curettage in the ordinary sense, and is one that I always adopt in puerperal cases where there is a suspicion of uterine sepsis. The interest of these cases lies in the facts that an eclamptic fit occurred 11 days after delivery, that one need not hesitate to clean out a uterus after Cæsarean section, and that, whilst the early history of the cases suggested the extreme likelihood of infection of the uterus, it is quite probable that both these cases would have done just as well without exploration.

Cæsarean Section on the Same Patient on Two Separate Occasions with an Interval of Three Years.

The patient, aged 21 years, had almost complete paralysis of the right leg, and considerable weakness of the left leg, due to anterior poliomyelitis in infancy, necessitating the use of crutches. At the first operation the patient had been in labour two days without any fixation of the head, the pubic arch was very narrow, and the head could not be made to engage. No attempt at sterilization was made, and she had an uneventful recovery.

On the second pregnancy occurring, she was told to present herself at about the eighth month, in order to see whether labour could be induced prematurely; but she neglected to do this, only appearing shortly before the date of expected labour. It was then found that the head would not enter the brim. At the operation no adhesions were found, nor could the line of the previous incision in the uterus be seen.

At this stage it may not be out of place to mention certain points which I believe are important in the operation.

it is necessary to decide whether the child is alive, and if the uterus lies obliquely. A sponge should be placed so that it lies symmetrically, in order that the incision will be made in the middle line. Give intramuscular (not subcutaneous) injection of pituitary extract immediately before making the uterine incision. Keep the incision high up, to avoid invading the non-contractile lower uterine segment and the circular sinus at the junction of the upper and lower segment. In this way severe hæmorrhage may be avoided. In extraction, grasp the legs and extract the buttocks first. The arm can usually be more easily grasped, and one may be tempted to lift out the child shoulder first, and then head. In cases where I have seen this done I have always noticed some difficulty and delay in getting the head out, and on one occasion the uterine wall was torn transversely at the lower end of the incision.

The last point to decide is whether something should be done to render future pregnancy impossible. On the first occasion the condition of the patient did not warrant any prolongation of the operation, and so the question of removing portion of the tubes was not raised. Before the second operation was undertaken she asked to be sterilized. The result is that she has two fine children, but will have no more. I am inclined to think that at a first operation the patient should not be given the option of deciding whether she should be sterilized, but that in case of subsequent pregnancy, premature induction should be done, or, failing this, Cæsarean section, for the risk under proper conditions of modern surgery is not great. I would add that the moral risk to a young woman who knows that she cannot become pregnant is not small.

DYSTOCIA DUE TO VENTRO-SUSPENSION OF THE UTERUS.¹

By Constance E. D'Arcy, M.B., Ch.M. (Sydn.),
Honorary Assistant Surgeon, Royal Hospital for Women,
Paddington.

So much has been written on this subject that I feel some apology is necessary in introducing it again. The fact that the operation is still very frequently performed, and that dystocia results therefrom, as instanced by the following cases, perhaps offers sufficient apology.

M.B., æt. 42 years, was admitted to the Royal Hospital for Women on December 16, 1913. She was in her eleventh pregnancy, and had advanced some twenty days beyond full term. All previous labours had been easy. Four years before the date of admission, she had undergone an operation for ventro-suspension of the uterus, following which she had two miscarriages at the third month. There had been no previous miscarriages. At the expected date of delivery she had labour pains for some hours. These had passed off, and about twenty days later (December 14, 1913) she had come into strong labour. I saw her on the morning after her admission, when she had been in labour for three days. Her general condition was good, but she was in continuous pain. The uterus was in a state of tonic contraction, and the retraction ring had risen to the level of the umbilicus. The membranes were unruptured and the child was lying in the transverse position. This is the position which has been most commonly reported in similar cases. On examining the vagina it was found that there was no "show" and the cervix could not be reached digitally. On making a cone of the hand and introducing it into the vagina, the cervix was felt high up under the promontory of the sacrum, with the os directed backwards and slightly upwards. The anterior wall of the uterus bulged far down into the vagina, and it was felt that the force of the uterine contractions was directed downwards on to an area in the anterior wall in front of the cervix, and not towards the os. There was not any dilatation of the os. The fetal heart-sounds were becoming very rapid. I decided to deliver by Cæsarean section. On opening the abdomen a dense band of adhesions about half an inch long and about a quarter of an inch thick was found binding the uterus to the anterior abdominal wall. The suspension sutures had apparently been placed posterior to the fundus,

and consequently the fundus lay at a level some two inches below the umbilicus; the great enlargement of the uterus was due to distension of the posterior wall, which was felt to be much thinner than the anterior. The sutures also had evidently been inserted somewhat to the left of the middle line, and, as a consequence, there was an exaggeration of the usual rotation of the uterus, and the left uterine cornu presented immediately under the mid-line incision. The band of adhesions was cut, and the uterus opened on its anterior surface. A large living child was delivered. The patient made an uneventful recovery. Seeing her later, I formed the opinion, from the position of the uterus and the direction of the cervix, that adhesions had formed between portion of the Cæsarean scar on the uterus, and a raw area on the anterior abdominal wall, at the site of the previous adhesions; and it would have been interesting if there had been any further pregnancy to have watched the course of labour with these new adhesions on the anterior surface of the uterus. There was, however, no further pregnancy, and she has now passed the menopause.

My next case was that of E.S., æt. 38 years admitted to the Royal Hospital for Women during the night of August 5, 1915. She walked into Hospital in a much collapsed condition, and was bleeding freely *per vaginam*. She was seven months advanced in her seventh pregnancy. Previous labours had been easy. Bleeding commenced during the evening, after stepping from a tram-car, and labour pains commenced soon after. She had had a ventro-suspension of the uterus performed twelve months previously. She was put to bed, her vagina was packed by the House Surgeon in charge, and she was given a hyperdermic injection of morphine. Her condition rapidly improved, and she had a few hours' rest, interrupted by labour pains. Later however, she began to show signs of concealed hæmorrhage, and when I saw her she had a very rapid, soft pulse and a sub-normal temperature, and her skin was very pale and cold. The uterus was distended and tender. *Per vaginam* the cervix was felt high up, and the undilated os was directed backwards. The membranes were not ruptured, no placenta could be felt, and the vertex was presenting. The anterior wall of the uterus bulged somewhat downwards into the vagina, and again in this case the force of the uterine contractions was expended in a line through this area, and made no effect on the os. There was now no external bleeding. No fetal heart sounds could be heard. Considering her desperate condition, I felt it would be in her best interests to delivered her by the abdominal route. I asked Dr. Cedric Bowker to see the case with me and he concurred. Dr. Bowker operated. An interesting point was that, on admission, a catheter specimen of urine contained no albumin, but another catheter specimen, taken before operation some six hours later, showed by the boiling test one-third albumin. Under ether anaesthesia a rapid Cæsarean hysterectomy was performed. The uterus was bound by a band of adhesions about three inches long, spreading out from a point on the abdominal wall about two inches below the umbilicus in a fan-shaped manner to an area at the *fundus uteri*. Here again the greatest amount of uterine enlargement was in the posterior wall. This band, as well as the uterus and the broad ligaments right out as far as the lateral wall of the pelvis, was a dark purplish-black colour. The adhesions were released, and the uterus opened on the anterior wall. On cutting into the uterus there was absolutely no bleeding, not even a slight oozing. The uterus was seen to contain a large amount of dark blood clot. A dead baby was delivered. The placenta was found to have been almost completely detached; a small portion of it still remained adherent to the posterior wall, near the left uterine cornu. On separating this there was again no bleeding; apparently the vessels were all thrombosed. This accounted for the black appearance. Both ovaries and tubes and the uterus above the cervix were removed. There was some bright oozing from the stump of the cervix, the circulation evidently being establishing through collateral vessels. Notwithstanding her desperate condition on coming on to the operation-table, and the shock of such a severe operation, she reacted well to stimulation, and made a happy recovery, leaving hospital within three weeks. The cause of the extensive thrombosis is an interesting matter for conjecture. Infarcts of the placenta have commonly been observed in cases of accidental hæmorrhage and of the

¹ Read at a Meeting of the New South Wales Branch of the British Medical Association on August 25, 1916.

toxæmia of pregnancy. In this patient both conditions were present, and it is quite easily conceivable that causes which operate to produce local thromboses might, when intensified, give rise to thrombosis in a much greater area. In this case the exact technique used in performing the operation of ventro-suspension was known. Two sutures of plain No. 3 catgut were placed close together, and they embraced a few fibres of the rectus muscle and the peritoneum on each side, and a portion of the uterus immediately at the level of the fundus. The surface of the uterus at this area was slightly roughened by rat-toothed forceps.

It has been claimed that Cæsarean section is unnecessary in such cases as these, and that dilatation may be brought about by the use of de Ribes' bag. I consider that, in my cases, this would not have been good practice. The reasons in the first case are (1) the inaccessible position of the os made the introduction of a bag impossible, (2) the tonic contraction of the uterus and the high position of the retraction ring showed signs of impending rupture of the uterus, and (3) the transverse position of a large post-mature infant. Even if causes (1) and (2) had not been operating, the necessary version and delivery of a large baby would in all likelihood have caused still-birth. In my second case the chief cause militating against the use of a hydrostatic bag was the accidental hæmorrhage, with the consequent desperate condition of the patient, which demanded rapid and active measures. As it turned out, also, the extensive thrombosis made hysterectomy an absolute necessity.

I have, of course, seen women delivered after ventro-suspension of the uterus without these urgent and dramatic incidents. In such cases the false ligament has been sufficiently long and elastic to allow more uniform enlargement of the uterus, and the cervical canal has not been altered out of its normal relations to the genital canal. But I have been impressed with the occurrence of occipito-posterior positions in these cases. This, I think, would be quite likely to be caused by the band of adhesions interfering with the natural rotation of the uterus on its long axis, more especially if the false ligament was attached to one side of the middle line of the fundus. It is very easy to place the suspension suture away from the mid-line, and what might seem a negligible distance in a non-pregnant uterus might be a very considerable distance and an important factor in a pregnant uterus.

Recently many surgeons have been performing the operation of ventro-suspension with two sutures close together passing through the anterior wall of the uterus, near the fundus, and sometimes one suture also lower down on the anterior wall above the cervix. I have seen two women delivered after operation in whom I have known this technique to have been employed, and both had easy labours. The line of the cervical canal in these cases is directed downwards towards the vagina.

That ventro-suspension with any method may cause considerable difficulty and danger to the pregnant woman is illustrated by the following case, which I had the privilege of seeing with Colonel Chas. MacLaurin, and which I take the liberty of briefly referring to in his absence.

L.V. was admitted to Hospital on May 27, 1915, 6½ months pregnant. The uterus had been suspended twelve months previously. She had been in labour three days before admission. The vaginal examination showed the cervix high up and the os directed backwards. The os was not dilated, although an attempt had been made to dilate it. There had been increasing difficulty in getting the bowels relieved as pregnancy advanced, and, after admission, notwithstanding enemata and aperients there had been very little fæces passed. The abdomen was greatly distended, the patient began to vomit, had an anxious expression, and otherwise showed signs of intestinal obstruction. Colonel MacLaurin decided to open the abdomen. The uterus was found bound to the abdominal wall by a dense band of adhesions, and at the same spot there were adhesions of a loop of bowel to the uterus. The bowel distal to this area was empty, and proximal to it was dilated. As the uterus rose up in the abdomen the increased kinking had caused the difficulty in relieving the bowel until finally obstruction supervened. All the adhesions were released, and the abdomen closed. A few hours later

the bowels were well opened, and three days later the patient was confined of a baby, which survived birth 45 minutes.

The conclusion which I draw from these cases is that ventro-suspension of the uterus from an obstetric point of view is a bad operation; but if the suture is applied on the anterior surface of the uterus it is less likely to cause evil results than if inserted on the posterior wall, or at the level of the fundus.

Reviews.

FRACTURES.

A monograph entitled "On Modern Methods of Treating Fractures," from the pen of Mr. Ernest W. Hey Groves¹ is a work of very considerable importance, embodying the original research and thought of a highly-trained surgeon, who has set himself the task of endeavouring to solve one of the most difficult and debateable problems presented to surgeons of the present day.

The general principles governing the management of fractures are set forth in an introductory chapter; and if the statements appear sometimes a little vague and complex, the final conclusions as to the need for co-operation of the different systems are convincing. The new methods are classified as being (I.) Massage and Mobilization; (II.) Extension Methods (should these really be called new?); (III.) Operation Methods. Mr. Hey Groves well says: "Every one of these principles is true, and in no way contradictory of the others; and, this being the case, it follows that no one can be in a position to do justice to the whole subject, unless he has mastered each principle," and can select and interchange them appropriately.

In the article on massage and mobilization, the author starts by placing his finger at once upon the unfortunate result of the injudicious selection of the term "massage"; the misconception that has become attached to the employment of this unlucky term has certainly impeded the progress towards general adoption of the principles of Lucas-Championnière. But surely the author does a singular thing, which can only make bad worse, when he remarks, "We ought really to call this method 'the treatment by hypnosis'." His meaning is, of course, perfectly clear; but we could wish he had never written that sentence. The truth is that the unfortunate "strokings" that have given rise to all this pother are not in the least essential to the treatment. They are only one means to a very simple physiological end, which is the allaying of the patient's mental apprehension, bringing quietness and repose to his entire nervous system, including that department of it which is at the moment producing spasmodic muscular contraction in the injured limb. Any sort of prolonged gentle handling of the limb, combined with soothing talk and demeanour will do as well as the most formal strokings; and the best way of dealing with the objectionable term "massage" would be to abolish it altogether. Unfortunately, its companion term "mobilization" is quite as ill-chosen and misleading as "massage," and in much the same way; for there is an inevitable and disastrous tendency to interpret "mobilization" as identical with, or closely allied to, "passive movement," which is exactly the reverse of what is really meant.

Mr. Hey Groves has done a considerable amount of careful experimental work, almost all of which is of genuine value, and adds permanently to our knowledge of the physiological processes of bone-repair. It is noteworthy that his observations have placed him definitely in the ranks of those who support MacEwen's much-questioned view as to the source of bone-formation. The author is convinced that the periosteum has no osteogenic power.

While the earlier portions of the book, which are concerned with principles and physiological considerations, cannot fail to compel admiration, we fear that when we

¹ On Modern Methods of Treating Fractures, by Ernest W. Hey Groves, M.S., M.D., B.Sc., F.R.C.S., 1916, Bristol: John Wright & Sons, Ltd.; Densil Stn., pp. 286, with 136 illustrations. Price, 7s. 6d.

enter with him the domain of practical clinical work, there will be few who will not feel somewhat insecure in accepting him universally as a guide. It is impossible to believe that the fearful appliances depicted can even establish a permanent place for themselves in the armamentarium of surgeons. We must confess to experiencing difficulty in understanding what some of these implements are supposed to do. Almost the only one in which the object and mechanism are perfectly clear is that for fractured metacarpals (p. 65) and this one is about as flagrant an example of the contravention of all elementary physiological principles as it would be possible to conceive. All good surgical technique is characterized by simplicity; and we cannot help feeling that, however fruitful the author's earnest and valuable work is to become in the future, there is a long way for him yet to travel in the direction of increased simplicity of method.

HANDBOOK FOR THE CLINICAL LABORATORY.

Professor F. A. McJunkin has prepared a brief account of the scientific methods suitable for employment in hospital practice.¹ The clinical pathologist will find in it directions for the performance of the tests that are usually applied to specimens sent to the clinical laboratory. These specimens will comprise samples of urine, faeces, sputum, blood and gastric contents, material for bacteriological examination, portions of the body removed at operation for morphological description and tissues or organs obtained by autopsy. The way in which each specimen should be treated before it reaches the pathological department is clearly described. Methods of handling the specimens on their arrival in the pathological department to ensure their orderly and expeditious examination are set forth in detail. This information, obtained as the result of some years' experience in conducting this work in a large hospital, should be of much value to those placed in charge of this kind of medical practice. Unless some system is adopted to secure accurate enumeration of the specimens and economical methods of examination, the pathologist becomes overburdened with routine duties, and forms the opinion that the time occupied in this work is too great. The result is a tendency to confine the examinations to those specimens likely to yield information of special importance. The author, who received his training at the Boston City Hospital, under Dr. F. B. Mallory, has no doubts of the utility of the American practice of making thorough examinations of the urine, blood, sputum, etc., of every patient undergoing treatment in the wards. The clinical pathologist is welcomed in the wards, and is afforded all assistance in making his observations of value to the cure of the patient and the advancement of medical knowledge.

The methods that are described are those found by the great majority of workers to give accurate results. New methods, that have not yet been tried out, find no place in this book. The scope of each test is indicated, so that the inexperienced pathologist may understand the character of the inference to be drawn from it. As the correct interpretation of the facts, ascertained by chemical and cytological examinations, depends on their consideration in the light of the symptomatology of the case, no attempt has been made to embody conclusions of a clinical nature into the text. In consequence, the size of the book is kept small. This limitation to an account of methods enhances its usefulness. The tests are described in simple language and in sufficient detail to insure their proper performance. No one can doubt that the author is giving the result of much patient and careful toil, undertaken to obtain methods free from fallacy and capable of giving definite conclusions. He points out clearly the pitfalls that entrap the rash and unwary technician. Numerous illustrations serve to render more evident the modes advocated by the author of carrying out this work. These illustrations may be commended, as many of them are new to us, and they will afford valuable instruction to those who study this work. Those who have done this kind of medical work will recognize the skill

shown in overcoming difficulties that have been felt by them in their practice.

A feature of this guide to pathological technique is the account of the preparation of specimens for surgical and diagnostic purposes. Directions are given as to the care of the tissues removed during surgical procedures, and the delivery of the specimen to the pathologist in a state suitable for its further examination. Methods of fixing the tissues on arrival in the pathological department are discussed according as to whether a rapid or more elaborate description is needed. The sections for the microscopical investigation are prepared by freezing, paraffin embedding or by celloidin, as required. Suitable means for indexing the material and results by a card catalogue, so that these results may be available for further study are discussed. Some twelve pages are devoted to a description of a method for carrying out a post-mortem examination. This is a part of the book which will be of much value for purposes of reference. Few works of this character give any details on this subject.

This book can be recommended with confidence to every pathologist in private practice, and also to pathologists in hospitals and in institutions. It will form a useful guide to the establishment of methods of routine which will accelerate the rate at which this work is done. It has been brought quite up to date, so that the pathologist will find in it just that information necessary for his work of every day. It can be also brought to the attention of the medical officer of country and suburban hospitals, who will find in it much of use to them. It will lead them to recognize how easy it will be to do a certain amount of diagnostic chemistry and bacteriology.

ROYAL SOCIETY OF NEW SOUTH WALES.

A meeting of the Section of Public Health and Kindred Sciences of the Royal Society of New South Wales was held in the Society's Rooms, Sydney, on September 12, 1916. Sir Thomas Anderson Stuart occupied the chair.

A discussion on the use of labour-saving devices in the household was opened by Mr. J. Nangle, who stated that the first and most important device for the economy of domestic labour was a well-designed house. He recommended the abolition of all mouldings and other forms of decoration in relief, and the use of floors of polished wood. He said that the articles of furniture ought to be of simple construction, with no places for the lodgement of dust. They should be raised at least nine inches above the floor, and should be accessible on all sides. Mr. Nangle concluded by describing some mechanical devices, such as the vacuum cleaner and the washing machine. Mr. A. D. Olle called attention to the fact that the costliness of many of these devices made them inaccessible to the small householder. Mr. Hector said that systematic arrangement of the housework was one of the most important ways of economizing domestic labour. Mr. Fitzhardinge mentioned some advantages of the fireless cooker. Sir Thomas Anderson Stuart deprecated the use of polished wooden floors. He said that carpets, besides adding to the comfort of a house, made for cleanliness. Dust was continually settling on any floor. On a polished floor it was visible a few minutes after cleaning, and was disturbed by the slightest movement. A carpet, however, acted as a dust-trap, and fixed the dust falling on it. This dust could then be removed completely with a vacuum cleaner.

Mr. Philip Benjamin forwards us the following information derived from letters from his son, Lieutenant Alva Benjamin, R.A.M.C., who has been for the past seven months stationed at Salonica, has been promoted to a Captaincy, and appointed Sanitary Officer of the Western District of the Base, which extends over an area of more than twenty square miles. This position, besides entailing a general supervision of all the camps therein, carries with it other important duties. Much of the country about Salonica is swampy. The swamps have either to be treated with oil, drained or filled in, to prevent the marshes becoming breeding-grounds for mosquitoes, which are the cause of the malaria prevalent in the locality.

¹ Hospital Laboratory Methods for Students, Technicians and Clinicians, by Frank A. McJunkin, A.M., M.D., 1916. Philadelphia: P. Blakiston's Son & Co.; Demi Svo., pp. 138, with one coloured plate and 93 illustrations in text. Price, 6s. nett.

The Medical Journal of Australia.

SATURDAY, SEPTEMBER 30, 1916.

The Infection of Children.

It is often remarked by parents that their children have remained free from illnesses due to the infectious fevers before attendance at school has begun. After entering school, the children suffer from one or more of the common eruptive fevers. When these children are brought into relation with a number of other children in the classroom and in the playground, the possibility of contact with those suffering from infectious fevers or with those carrying the contagion of these diseases is increased. The larger the number of children assembled in the class or at recreation the greater is the chance that children preserved from infection by some degree of segregation will become exposed to infection. It is widely held that children are more liable to catch these ailments than adults after exposure to infection. Adults may meet together freely in places of public assembly with little risk of infection. This relative freedom from danger has been ascribed to the protection that many adults have acquired in consequence of previous attacks of these diseases. Whenever a large number of children are brought together the risk of the transference of disease from those diseased or infected to the healthy is not inconsiderable.

The attention of those concerned with the administration of public health has been directed to some further aspects of this question of the infectivity of children. It has been noted that children who have been moved from one district to another may become infected after attending school in the new district. In some instances it has been possible to trace the sequence of infected persons, though this is not often possible. The absence of knowledge as to the nature of the microbes occasioning many of the common exanthemata, with the consequent impossibility of using bacteriological methods to identify infecting persons, increases the difficulty of tracing the path of infection. In the case of diphtheria this difficulty does not occur, but the little interest taken in

preventive medicine has restricted the accumulation of information in regard to this disease. In the year ending June 30, 1915, over 12,000 cases of diphtheria were notified to the health authorities in Australia. If we consider in how few cases the name of the person from whom the infection was derived was ascertained, we become aware how limited is our knowledge. Again, how few will have been the cases in which the three persons who have harboured the infection in succession have been identified. In the case of diphtheria, it is now recognized that many thousands of persons and children harbour the *bacillus diphtheriae* in their bodies without suffering from disordered health. In a community or in a school the germs may be distributed from person to person without any illness resulting. It is often stated that this is due to an immunity acquired against the race of organism concerned. No evidence has, however, been obtained as to the kind of immunity present, though it appears undoubted that a definite degree of immunity has developed in certain individuals. The newcomer to a school or to the district is liable to contract diphtheria by infection with the race of germs to which the members of the school or community are immune. In addition, a person suffering from diphtheria due to some other strain of *bacillus diphtheriae* or a "carrier" bearing another strain of this organism may introduce diphtheria into the apparently immune school or community. It may be granted that there is some evidence, meagre and imperfect indeed, that persons associated together in the same environment develop a resistance to the germs distributed by the members of the community; but this resistance may not be sufficient to protect the individuals against other strains of the same microbes.

These considerations emphasize the importance of guarding children from sources of infection. Not only the health authorities, but also the teacher, should exercise supervision over the health of the children. Children suffering from infective diseases, and those living in the same dwelling as those suffering from contagious fevers, should not be allowed to mix with healthy children. Due consideration should also be given to the advisability of bringing large numbers of children together, whereby infection can be spread. The conveyance of large num-

bers of children in trams, trains and ferry-boats offers easy means for the transference of germs to healthy children. The assembly of a large crowd of children in pleasure-resorts will dispose to the infection of a number of children by those harbouring the microbes of disease. It cannot be doubted that it is not advisable in the interests of the health of the children to bring those attending large schools together for the purpose of pleasure. If such a practice is adopted the children from a particular district should be assembled at the same time. The promiscuous intermingling of children can only lead to an increase in the incidence of infectious disease.

CONCENTRATED MILK.

It is now recognized that the purity of fresh milk is dependent on the adequate use of certain precautions. Inspection of dairy cows detects the presence of pathological changes in the udder, in the mamma and in the body of the cow and serves to hinder the contamination of milk with pathogenic micro-organisms. Cleanliness and proper protection from dust and dirt prevent the deterioration of the milk during its distribution previous to delivery. The supervision of dairies assists in providing pure, fresh milk. Chemical analysis discovers adulteration, and ensures a minimal nutrient value in the milk. Dr. T. Cooksey contributes in the present issue a valuable paper on the changes which are observed in some samples of condensed milk. He draws attention to the need of making concentrated milk from fresh, pure and wholesome sources. It appears that the milk used in the manufacture of condensed milk should be collected and delivered to the factory with the care exercised when the milk is intended for consumption without concentration. This matter deserves further discussion and examination, since large quantities of condensed milk are sold in Australia. Not only does a considerable section of the people use large amounts of concentrated milk, but the manufacture of condensed milk can be extended with the expansion of the dairy industry. The high temperatures which are prevalent in many dairy districts in this continent necessitate the employment of measures which may not be required in cooler climates. No trouble should be spared in the preparation of food.

INFANTILE PARALYSIS.

The endowment of palatial institutes, dedicated to the advancement of knowledge, has been a feature of the evolution of latter-day civilization in the United States of America. The millionaire has promoted the study of those lines of research which tend to improve the health, elevate the character and heighten the intellectual development of his fellow-citizens. The science and art of preventive medicine are deeply indebted to the princely generosity of many wealthy philanthropists. Many earnest investigators have obtained the opportunity to employ their enthusiasm and skill in the accumulation of information destined to preserve the human race from needless suffering and sorrow. The Rockefeller Institute for Medical Research is pre-eminent among establishments devoted to the discovery of the principles and practice of hygiene. The staff, under the enlightened direction of Professor Simon Flexner, has recognized the importance of avoiding any divorce between clinical and scientific medicine. The investigations carried out at the Institute have thus been of material assistance to the practitioner of medicine and surgery. The hospitals of New York open their doors to the members of the staff of the Institute, to enable them to be familiar with the problems that confront the staffs of the Hospitals. With such a co-ordination of efforts, progress is rapid. As an example of the value of this union of study in the ward and the laboratory, attention can be directed to observations on the nature, manner of conveyance and means of prevention of infantile paralysis.

In response to a request by many physicians and laymen for information and advice on the subject of infantile paralysis, Simon Flexner has thought it desirable to relate the facts of present knowledge on some pertinent aspects of this disease.¹ He points out what deductions, applicable to preventive medicine, can be derived from what is now known. Infantile paralysis is an infectious and communicable disease, caused through the invasion of the brain and spinal cord by a minute filterable micro-organism. This microbe has been secured in artificial culture, and, as such, is distinctly visible under the highest powers of the microscope. The virus of the disease is found constantly in the organs of the central nervous system and upon the mucous membranes of the nose, throat and intestines of persons suffering from the disease. The virus is occasionally detected in other internal organs; but it has not yet been found in the circulating blood of patients. At present, the difficulties attending the cultivation and identification of the virus prevent the use of ordinary bacteriological tests for the detection of the organism. The virus may, however, be recognized by inoculating monkeys with suspected material. These animals develop a disease similar to infantile paralysis in human persons. By this means it has been observed that the virus occurs on the mucous membrane of the nose and throat of healthy persons who have been in intimate contact with acute cases of infantile paralysis. It has also been established that such persons can convey the disease to children, though the carrier does not become ill. The virus shows the

¹ *Journ. Amer. Med. Association*, July 22, 1916.

same distribution in the central nervous system, nose, throat and intestines, whatever may be the type of the disease in the infected person. The organism appears as widely spread in the tissues in patients exhibiting the abortive forms of the disease, with a fleeting paralysis, as in the acute meningeal varieties.

The infection leaves the body of those suffering from the disease or contaminated with the contagium in the excretions of the nose, throat and intestines. Repetition of the earlier experiments on the spread of the infection by stable-flies has not confirmed the former results. The uniform failure to find the virus in the blood of children or monkeys renders it unlikely that blood-sucking or biting insects can be infected from the surface of the body. The virus enters the human body, as a rule, if not exclusively, by way of the nose and throat. The micro-organisms make their way from these accessible parts along the lymphatic channels that connect the upper nasal mucous membranes with the interior of the skull. The virus is protected by the physical characters of the secretions of the nose and throat. It is not destroyed by being dried, by exposure for months to summer temperatures, or by the action of weak chemicals or antiseptics. Even when dried to the form of dust the nasal secretion retains its virulence. Darkness and diffused daylight favour the survival of the infection in the secretions while bright daylight limits the duration of infectivity. Exposure to sunshine readily destroys the virus. Endowed with these qualities of resistance, the microbe is easily transferred from individual to individual by coughing, sneezing or kissing, by means of the fingers or by articles contaminated with the excretions of the mouth.

Since epidemics of infantile paralysis usually arise during warm or summer weather, many have thought of them as concerned with or dependent on insect life. The numerous experimental studies now completed seem to show that neither biting flies, bed-bugs, mosquitos nor lice convey the infection of the disease. Even when such insects are contaminated they do not infect monkeys by their bites. The domestic fly may come under suspicion as a mechanical carrier of the virus; but, so far, the transference of the disease by infected flies has not been successfully demonstrated. Flies, contaminated with infecting secretion, retain the virus for forty-eight hours. Much suspicion has occurred against domestic animals during recent epidemics. Dogs, cats, pigs and poultry have been thought to show a similar disease during epidemics among human beings. These animals suffer from diseases in which paralyzes of the legs and other parts of the body are observed. A series of experimental studies have excluded these animals from being carriers of the virus, and have shown that these paralyzes belong to types quite different from the paralysis of the human disease.

The virus disappears more quickly from the interior of the body than from the nose and throat in monkeys. The virus cannot be found in the nervous tissues later than three weeks after the onset of the disease. It has sometimes disappeared as early as three days. In the throat the period of its survival shows much variation. In one instance it was

found in the nasal secretion six months after inoculation. The evidence so far available for human infectivity is so fragmentary that no safe conclusions can be drawn as to the period of infectivity. In one undoubted case of the disease, the secretions of the nose and throat remained infective for five months. Such a retention of infectivity appears to be quite exceptional.

Epidemics of this disease vary greatly in the number of persons affected and in the rate of mortality. The extremes are represented by the occasional cases of the disease, which occur in every large community, and from which no extension takes place, and by the instances in which the cases number hundreds in a few days or weeks, and in which the death-rate amounts to 20% or more of those attacked. The staff of the Institute have noted great fluctuations in the intensity of the virulence of the infective microbe. A virus obtained from a human case may be slightly or highly virulent to monkeys. By the passage of a virus of low infectivity through a series of monkeys its virulence is increased to an almost incredible extent; but if the inoculations are continued, the strain slowly returns to its original, or even to a still more diminished, virulence. Later again, the virulence may return. The factors which determine these changes in toxicity have so far escaped detection. One factor, not yet capable of accurate definition, is individual susceptibility. Not all children, and relatively few adults, can be infected with infantile paralysis. Young children are more liable to the infection than older children; but no age is exempt from the possibility of the disease. In a family, one or more children take the disease, while others escape. It is now, however, established that, in the past, many cases were not detected. Many children are infected, exhibit a few signs of disturbed health, but shown no paralysis. Infected with the same strain of the virus, these children exhibit a different type of the disease.

The period of incubation varies from two days to two weeks; but the usual period does not exceed eight days. The danger of communicating the disease seems to be greatest during the very early and during the acute stage of the illness. This statement is put forward tentatively, and may be modified in the future. The virus is not commonly found six weeks later than the onset of the illness, and patients can be regarded as free from infectivity after that time. An attack of the disease, which ends in recovery, gives protection against the disease. In monkeys, one attack protects against subsequent inoculation with the most virulent material. All forms of the disease in man, paralytic, meningeal and abortive, confer immunity.

The blood of normal persons and monkeys does not destroy or neutralize the virus of infantile paralysis; but the blood of persons and monkeys recovered from the disease is capable of destroying and of neutralizing the virus. The immunity that is developed in those who have suffered from the disease depends on the presence of the immune bodies formed during the course of the disease. The presence of these bodies has been detected more than twenty years after the recovery from the disease.

These immune substances seem to be developed in the course of the mildest attack of the disease. Attempts to produce an active immunity by the use of subeffective doses of the virus have been partially successful, though paralysis may occur during the process of vaccination. In those instances in which protection have been accomplished, immune substances have appeared in the blood. A passive immunity of short duration may be conferred by transferring the blood of immune to untreated monkeys. The immunity is so uncertain and of such brief duration that it is useless for protective purposes. A measure of success has also been achieved in treating monkeys and persons with the serum from, protected monkeys and persons. The injections are made into the spinal cord. Unfortunately, the quantity of human immune serum is limited, and no other animals than monkeys seem capable of yielding an immune serum. Among drugs, the only one that seems able to reach the virus in the central nervous system is hexamethylenamine. This drug appears capable of destroying the virus during the early stages of the disease; but its action is, at best, feeble

Naval and Military.

The following notice appeared in the *Commonwealth of Australia Gazette*, No. 129, under date of September 21, 1916:—

Supplement to *London Gazette* of Tuesday, 2nd May, 1916.

Central Chancery of the Orders of Knighthood.

Lord Chamberlain's Office,
St. James' Palace, S.W.,
2nd May, 1916.

The King has been graciously pleased to give orders for the following appointment to the Most Honourable Order of the Bath for distinguished service in the field. The appointments to date from 1st January, 1916:—
To be additional member of the Military Division of the Third Class, or Companions of the said Most Honourable Order:—

Colonel C. S. Ryan, M.B., Army Medical Service.

Supplement to *London Gazette* of Friday, 5th May, 1916.

War Office,
5th May, 1916.

The following name, which through various causes could not be included at the time, is added to the list of officers and men mentioned in General Sir Ian Hamilton's despatch of 11th December, 1915, published in Supplement No. 29455 of 28th January, 1916, to *London Gazette* of 28th January, 1916 (republished in *Commonwealth of Australia Gazette*, No. 44, of 6th April, 1916:—

Army Medical Service.

Colonel C. S. Ryan, M.B.

Chancery of the Order of St. Michael and St. George.

Downing Street,
3rd June, 1916.

The King has been graciously pleased to give directions for the following appointments to the Most Distinguished Order of Saint Michael and Saint George, for services rendered in connexion with Military operations in the field:—

To be additional Member of the Second Class, or Knight Commander of the said Most Distinguished Order—
Colonel (Hon. Surgeon-General) William Daniel Campbell Williams, C.B., Australian Army Medical Corps.

To be additional Member of the Third Class, or Companions of the said Most Distinguished Order—
Lieutenant-Colonel B. J. Newmarch, Army Medical Corps.

Third Supplement to *London Gazette* of Tuesday, 20th June, 1916.

War Office,

21st June, 1916.

The following despatches have been received by the Secretary of State for War from General Sir John Maxwell, K.C.B., on military operations in the Egyptian Command:—

Despatch No. IV.
Army Head-Quarters,
Force in Egypt,
Cairo, 16th March, 1916.

My Lord,

In continuation of my despatch of the 1st March, 1916, I have the honour to submit the names of officers and other ranks whom I desire to bring to your notice.

Part 2.—In connexion with administration in Egypt.

I have the honour to be,

My Lord,

Your obedient servant,

J. G. MAXWELL, General,
Commanding the Force in Egypt.

Army Medical Corps.

Colonel (Hon. Surgeon-General) W. D. C. Williams, C.B.
Lieutenant-Colonel (temporary Colonel) H. C. Maudsley.
Lieutenant-Colonel B. J. Newmarch, V.D.
Lieutenant-Colonel J. B. McLean.
Captain (temporary Major) T. F. Brown.
Captain (temporary Major) D. S. Mackenzie.

Appointments.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of the following appointments, etc., being made in the Australian Imperial Force, to take effect from dates shown opposite names:—

Army Medical Corps.

To be Captains—

Captain (provisional) W. S. Garnett, Australian Army Medical Corps. Dated 20th April, 1916.
Captain (provisional) F. F. McMahon, Australian Army Medical Corps. Dated 1st May, 1916.
Honorary Captain J. W. Farrar, Australian Army Medical Corps Reserve. Dated 22nd June, 1916.
Honorary Captain A. J. McShane, Australian Army Medical Corps Reserve. Dated 19th August, 1916.
Honorary Captain E. M. Gordon-Glassford, Australian Army Medical Corps Reserve. Dated 18th July, 1916.

Promotion.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of the following promotion being made in Australian Imperial Force, to take effect from 6th September, 1916:—

Army Medical Corps.

To be Major (temporarily)—

Captain R. Howden, whilst employed on Sea Transport Staff.

Termination of Appointments.

The appointments of the undermentioned officers are terminated from dates as stated against their respective names:—

Major J. L. Gibson. 28th August, 1916.
Major C. L. Lempiere. 8th August, 1916.
Major A. Pentland. 11th August, 1916.
Captain W. DeW. Henty. 31st July, 1916.
Captain C. Retallack. 15th August, 1916.
Captain J. F. Gardner. 23rd July, 1916.
Captain F. A. Sweetnam. 23rd July, 1916.
Captain J. E. Butchart. 23rd July, 1916.
Captain R. T. Fetherstonhaugh. 23rd July, 1916.
Captain H. Gilbert. 23rd July, 1916.
Captain O. Leitch. 23rd July, 1916.
Captain J. W. Hart. 31st August, 1916.

The name of Captain G. A. M. Heydon (previously reported ill) appears among the names of those wounded in the 218th and 219th lists of casualties. It is reported in the

220th and 221st lists of casualties that Lieutenant-Colonel H. K. Bean is still dangerously ill.

We learn by cable that Captain N. W. Broughton has been killed in action.

CORRECTION.

Dr. E. H. Molesworth writes to point out an error in his paper entitled "The Incidence of Venereal Disease and Method of Prevention" and published in last week's *Journal*. On page 250, paragraph 3, the word "medicament" should read "mercury."

Public Health.

THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending September 16, 1916:—

Disease.	Metropolitan District.		Hunter River District.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	
Enteric Fever ..	7	0	0	0	1	0	8
Scarlatina ..	69	0	7	0	33	2	109
Diphtheria ..	60	3	3	0	39	0	102
C'bro-Sp'l Menin.	2	0	0	0	12	2	14
Pul. Tuberculosis	28	5	0	0	†	28	5
Malaria ..	1	0	0	0	0	0	1

† Notifiable only in the Metropolitan and Hunter River Districts.

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending September 17, 1916:—

Disease.	Metropolitan.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	
Diphtheria ..	95	4	43	1	133
Scarlatina ..	39	1	16	1	55
Enteric Fever..	3	0	1	0	4
Pulmonary Tuberculosis	25	6	11	11	36
C'bro-Spinal Meningitis	9	—	16	—	25

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending September 9, 1916:—

Disease.	No. of Cases.
Varicella ..	37
Pulmonary Tuberculosis ..	14
Scarlet Fever..	13
Malaria ..	7
Enteric Fever..	6
Diphtheria ..	29
Erysipelas ..	4
Puerperal Fever ..	3
Cerebro-Spinal Meningitis ..	4
Infantile Paralysis ..	1

The following notifications have been received by the Department of Public Health, Queensland, during the week ending September 16, 1916:—

Disease.	No. of Cases.
Diphtheria ..	38
Cerebro-Spinal Meningitis ..	4
Scarlatina ..	3
Erysipelas ..	8
Pulmonary Tuberculosis ..	9
Enteric Fever..	5
Malaria (from other States) ..	7
Malaria (Queensland) ..	3
Varicella ..	61
Ankylostomiasis ..	1
Puerperal Fever ..	2

INFECTIVE DISEASES IN SOUTH AUSTRALIA.

The following notifications have been received by the Department of Public Health, South Australia, for the week ending September 2, 1916:—

Disease.	Adelaide.		Rest of State.		Totals.
	Cs.	Dths.	Cs.	Dths.	
Morbili ..	45	0	297	0	342
Pertussis ..	9	0	73	0	82
Diphtheria ..	3	0	20	1	23
Pulmonary Tuberculosis	4	3	9	3	13
Scarlatina ..	1	0	6	0	7
Erysipelas ..	1	0	4	0	5
C'bro-Spinal Meningitis	0	1	3	1	3
Puerperal Fever ..	0	0	0	1	1

The following notifications have been received by the Central Board of Health, Adelaide, for the week ending September 9, 1916:—

Disease.	Adelaide.		Rest of State.		Totals.
	Cs.	Dths.	Cs.	Dths.	
Morbili ..	25	0	173	0	198
Pertussis ..	15	0	67	3	82
Diphtheria ..	1	0	23	3	24
Pulmonary Tuberculosis	1	6	10	7	13
Scarlatina ..	0	0	5	0	5
Enteric Fever..	1	0	2	0	3
C'bro-Spinal Meningitis	1	0	2	0	3
Erysipelas ..	1	0	1	0	2
Puerperal Fever ..	0	0	1	0	1

THE HEALTH OF TASMANIA.

The following notifications have been received by the Department of Public Health, for the week ending September 9, 1916:—

Disease.	Hobart.	Launceston.	Country.	Whole State.
	Cases.	Cases.	Cases.	Cases.
Diphtheria ..	3	1	16	20
Pulmonary Tuberculosis	2	0	4	6
C'bro-Spinal Meningitis	0	0	1	1

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending September 16, 1916:—

Disease.	Hobart.	Launceston.	Country.	Whole State.
	Cases.	Cases.	Cases.	Cases.
Diphtheria ..	4	1	7	12
Pulmonary Tuberculosis	1	0	7	8
C'bro-Spinal Meningitis	1	0	2	3
Scarlatina ..	0	0	1	1

INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the fortnight ending September 2, 1916:—

Disease.	Metropolitan.		Rest of State.		Totals.
	Cs.	Dths.	Cs.	Dths.	
Enteric Fever..	3	—	0	—	3
Diphtheria ..	12	—	5	—	17
Scarlatina ..	6	—	9	—	15
Pulmonary Tuberculosis	4	—	3	—	7
Erysipelas ..	3	—	0	—	3
Cerebro-Spinal Meningitis	1	—	1	—	2
Infantile Paralysis ..	3	—	0	—	3

MILITARY CROSSES.

A press cable gives information that the following members of the A.A.M.C. have been awarded Military Crosses: Captain S. C. Fitzpatrick, who dressed wounded men continuously for four days in the open, under heavy fire.

Captain J. P. Fogarty, who assisted the wounded, regardless of his safety, and to whom two brigades owes a deep debt of gratitude.

Captain G. A. Heydon, who attended the wounded for four days under incessant fire, and carried his dressing-station when the bearers had been killed or wounded.

Abstracts from Current Medical Literature.

MEDICINE.

(118) Cerebro-Spinal Syphilis Associated With Meningitis.

E. H. Hammes records the history of a case of cerebro-spinal syphilis associated with pneumococcal meningitis (*Journ. Amer. Med. Assoc.*, July 29, 1916). A woman, aged 21, single, of domestic occupation, developed an abscess on her right thumb. Seven days later, the abscess was opened and drained. There was no previous history of illness except an attack of appendicitis four years previously, for which appendectomy was performed, and the development of a sore on the hand two years previously. Syphilitic infection was denied, though the doctor who saw the patient's hand two years previously stated that the sore was due to gonorrhoeal infection. On the day that the abscess was opened the patient complained of a severe headache, and shortly afterwards had a general convulsion. The temperature was 100° F., the pulse-rate 100, the blood-pressure 122 mm. Hg., the urine normal, and the blood contained 12,200 leucocytes. The headache was frontal and bilateral, and became very severe. The patient appeared drowsy and confused. During the next twenty-four hours she had 30 major convulsions, and it seemed as if she would pass into a *status epilepticus*. The convulsions began with spasms of the left face, and the eyes were rotated to the left and up. Lumbar puncture was performed, and yielded clear fluid. It gave positive Nonne, Noguchi and Wassermann reactions. Optic neuritis was present in both eyes. The convulsions diminished after 36 hours. The patient was given six intravenous injections of neo-salvarsan, and made a clinical recovery. One month later she developed an apparently similar condition, from which she died in four days. A lumbar puncture showed the spinal fluid turbid loaded with leucocytes and containing great numbers of the *Diplococcus pneumoniae*. No post-mortem examination was permitted, and no signs of pneumonia were detected during life.

(119) Cerebellar Rotation.

André-Thomas (*C.R. Soc. Biol., Paris*, January, 1916) points out that sufficiently large ablations of the cerebellum give rise in animals to movements of rotation on the longitudinal axis of the body during the early days following the operation. These movements are orientated in such a way that the head is turned to the side destroyed, at the same time that it undergoes a twisting which turns the face from the healthy side. When the animal is placed on its four paws it falls towards

the operated side, and the movement of forced rotation is continued in the same direction. In man, complete movements of rotation along the longitudinal axis have been rarely observed. Not more than three cases are known to the author from the literature. In February, 1915, a soldier was admitted under his care, who was entered as having lost a considerable part of the cerebellum. At first the patient was in a state of subconscientiousness, unable to talk and to leave his bed. In two months the patient had made such a recovery that his intelligence returned and he tried to leave his bed. On attempting to move he exhibited the characteristic rotation of the body observed in dogs deprived of half of the cerebellum. The body was turned to the left, while the right shoulder was carried back and the trunk described a half rotation. The face was turned slightly to the right, the occiput to the left, and the whole head was bent on the left shoulder. The trunk presented a cervical-dorsal scoliosis, with a concavity to the left, and a dorso-lumbar scoliosis, with a concavity to the right. The left shoulder was pushed forward, in front of the right. The left shoulder was also somewhat lower than the right. The patient had some trouble with his speech, and exhibits nystagmus. The author considers that there is no doubt the patient suffers from a lesion of the vermis, and of the left half of the cerebellum.

(120) A Case of Acromegaly.

G. Marinesco and J. Minea (*C.R. Soc. Biol., Paris*, January, 1916) describe an exceptional case of acromegaly. It occurred in a woman, aged 32, in whom the menses appeared at 16 years, who was married when 20 years of age, and who had three infants born at term. Her illness commenced six years before with more or less violent pains in the head. Some months later menstruation ceased. Four years ago ptosis developed on the left side, with loss of vision of the left eye. A little time afterwards the patient noticed that her hands and feet had increased in size, and that her nose commenced to enlarge and her lips to swell. She observed some loss of power in her muscles, and she failed to sleep. About this time she became incapable of continuing the control of her household. On coming under observation two years previously the patient exhibited the typical facies of acromegaly and the characteristic swelling of the upper and lower extremities. In addition, there was ptosis of the left eye-lid and paralysis of accommodation, with loss of the reflex to light on the left side. The patient complained of most severe pains in the head. The urine was normal. No sensory disturbance could be detected, nor any alteration in the body reflexes. Two months previously, when she came under observation for the second time, there was paralysis of all the ocular muscles supplied by the third and fourth cranial nerve. There was diminished sensibility of the left cornea and the left side of the body. Attacks of *tic dou-*

loureaux were frequent. A few days later the patient had a fit, with loss of consciousness. When she recovered, respiration was difficult, the pulse feeble and infrequent and sweating was profuse. Some days later there was bilateral atrophy of the optic nerves. Nausea and vomiting occurred from time to time. The patient gradually sank into a state of somnolence, interrupted by cries caused by the pains in the head. Lumbar puncture showed an increase of pressure in the spinal fluid. The cerebro-spinal liquid gave a positive Nonne-Appelt reaction. The patient gradually sank into a state of complete unconsciousness, and died 14 days later. At the autopsy, a large tumour was found at the base of the cranium. It was attached by a pedicle to the base of the brain, and was much lobulated. The lobules extended into all the neighbouring spaces. The *sella turcica* was much enlarged, and its morphology altered. On microscopical examination it was not possible to detect anywhere the normal structure of the hypophysis.

(121) Auriculo-Ventricular Dissociation

D. Danielopolu and V. Danulescu have studied the effect of adrenalin in a case of incomplete dissociation of the auricular and ventricular contraction of the heart in a woman, aged 60 years, who was the subject of arteriosclerosis (*C.R. Soc. Biol., Paris*, January, 1916). The normal rhythm of this heart exhibited two auricular beats to one of the ventricle. After the administration of the adrenalin the dissociation of the ventricular from the auricular contraction steadily diminished, until, in four minutes, the dissociation had completely disappeared. The rate of the heart was now 127 beats per minute. Before the administration of adrenalin the auricles beat 94 times per minute and ventricles 47 times per minute. The use of adrenalin lowered the systolic blood-pressure from 220 mm. Hg. to 205 mm. Hg., while the diastolic blood-pressure remained unaltered.

(122) Blood Dyscrasias with Splenomegaly.

In a symposium on the blood dyscrasias associated with splenomegaly in the *New Orleans Med. and Surg. Journ.* of July, 1916, J. A. Langford and J. D. Weis arrive at the same conclusions. They both discuss the aetiology of the various anæmias in which splenic enlargement is found. These conditions include pernicious anæmia, lymphatic leukaemia, splenic anæmia, post-malarial anæmia and kala-azar. The only symptom common to these conditions is the anæmia. The degree of leucytosis or leucopenia, the involvement of lymphatic glands and the shape and size of the splenic tumour vary in them all. The aetiology is still shrouded in mystery, save in the case of kala-azar. The treatment employed, however, is common for all these affections, and consists in the exhibition of arsenic.

NEUROLOGY.

(123) Tumours of the Gasserian Ganglion and the Cerebello-Pontine Angle.

Cadwallader (*American Journal of Nervous and Mental Disease*, July, 1916), in recording seven cases of tumour of the cerebello-pontine angle and two of the Gasserian ganglion, pointed out that it was important to differentiate between growths in these two situations, because, surgically, a tumour of the middle fossa (Gasserian ganglion) was to be reached by a lateral opening, whereas the cerebello-pontine angle could only be approached from the suboccipital region. In a tumour of the cerebello-pontine angle the most important single sign was homolateral nerve deafness. Other indications, which, however, did not follow in exact sequence, were homolateral facial paralysis, due to interference with the seventh nerve; ataxia, due to pressure upon the cerebellum and to labyrinthine disturbance; and, contralateral weakness and spasticity, due to pressure upon the pyramidal tract. In a tumour growing from the region of the Gasserian ganglion, the most important signs were severe sensory disturbance, both subjective and objective, of the face, sympathetic paralysis of the eye, third nerve paralysis and disturbance of smell and vision, all homolateral. There might also be ataxia and deafness. None of the signs first mentioned occurred in tumour of the cerebello-pontine angle. Of the nine cases recorded, in four death occurred from natural causes, and the growth was found at autopsy; in five operation was performed, but only two survived.

(124) Chiasmal Lesions, with Reference to Bitemporal Hemianopsia.

Cushing and Walker (*Brain*, Vol. XXXVII, 1915), following upon previous investigations, have recorded a series of 101 cases of brain tumour, in which the tumour was hypophysial or parahypophysial, and in 81 of these chiasmal involvement had led to deformations of the field of vision. These deformations tended at the time of admission to be bitemporal in 26 cases, homonymous in 12, and were unclassifiable in 8 cases, while the remaining 35 showed blindness in one or both eyes. Bitemporal hemianopsia was not usually bilaterally symmetrical. The text-book representation, with a vertical meridian, was relatively uncommon. In the majority of cases, whether of intra- or supra-sellar tumour, the first perimetric indication of the process was shown by a slant in the boundary of an upper temporal form field and a corresponding quadrantal defect in the colour peripheries. For convenience, this was designated as Stage I. of the process, and with a progressive lesion the field defects advanced in characteristic fashion through Stage IV. of actual hemianopsia to Stage VIII., when blindness had ensued. In all stages the loss of colour perception was usually in advance of that form, and the condition in one eye was usually in advance of

that in the other, so that every possible stage combination in the two eyes might be found. When relief from pressure had been afforded by operative measures, the recession of the defects took place in a sequence the reverse of that in the advancing process. In the receding process, relative paracentral scotomata often persisted, because the functional vulnerability of the macular and paramacular fibres appeared to be greater than that of the other fasciculi. Restoration of normal field peripheries was possible, even when the process had advanced to, or beyond the Stage IV. of typical half vision, and some vision might be regained, even after blindness had occurred, provided it had not been of too long duration. In view of the prompt restorations in field outlines which might follow operative relief from pressure, it was evident that the so-called primary optic atrophy often did not so much represent an actual anatomical degeneration as a physiological block to the transmission of visual impulses. Detailed perimetry, with small test objects of serial sizes, with particular attention to the shading off of the upper temporal periphery and to relative paracentral scotomata in the same quadrant, was advocated for patients with pituitary disease, in order that stages of hemianopsia antecedent to those usually recognized might be detected.

(125) Factors Which Determine the Calibre of Nerve Cells and Fibres.

Leonard J. Kidd (*Review of Neurology and Psychiatry*, September, 1915) concludes that the calibre of a nerve cell or a nerve fibre does not depend on the size of an animal, nor on the size of the muscle which it innervates, nor on the length of the course which the nerve fibre has to traverse, nor on the number of muscle fibres which the nerve fibre innervates, nor on the morphological position of the tissue which the nerve fibre innervates. There are three factors by which calibre is determined: (1) the phylogenetic age of nerve cells and fibres, (2) the number and complexity of the dendritic connexions of nerve cells, and (3) the large size of the nerve cell or fibre in relation to the size of the muscle which it innervates, and to the quickness of its motor response to motor stimuli. Cells relatively juvenile, phylogenetically, are sometimes large, e.g., the giant cells of the mammalian cortex cerebri. Magnitude is here dependent upon richness and number of dendritic connexions with other neurones. The relative smallness of the nerve fibres of viscera, of the branchial apparatus and of the phrenic nerve of mammals, is probably due to the simple and unprogressive nature of the alimentary and respiratory functions. The magnitude of somatic efferent and afferent cells and fibres is due to the great complexity and more variable nature of the work they perform. In most vertebrates large nerve fibres rise in large cells, and small fibres in small cells. There is an exception in the lamprey, whose small cells and relatively large fibres are explained by the simplicity

and sluggishness of that animal's muscular movements.

(126) Lymphogenous Infection of the Central Nervous System.

This elaborate and time-absorbing research of Orr and Rows (*Brain*, Vol. XXXVI, 1914) aimed at determining the causation of the lesion and its point of origin and propagation in diseases such as meningitis, tabes dorsalis, dementia paralytica and the non-systemic sclerosis. The research was suggested by the fact that, in tetanus and rabies, the infection travelled along the peripheral nerves. First they examined human material, cases of abscess, decubitus, etc., and got clear evidence that toxins diffused upwards from the peripheral infective foci along the perineural lymph stream, and infected the spinal cord (lymphogenous infection). Next they showed that the central nervous system could be similarly infected experimentally. This they did by placing small celluloid capsules containing a broth culture of a micro-organism (usually the staphylococcus pyogenes aureus) in contact with the sciatic nerve or under the cheek of dogs and rabbits, and leaving them *in situ* for periods of from two to six weeks, when the animal was killed and the tissues submitted to exhaustive microscopical examination. Sometimes the capsule burst and gave rise to suppuration, but this did not affect the main issue, namely, the anatomical distribution of the inflammation. The evidence left no room or doubt that infection of the lymph system of a peripheral nerve was followed by an ascending perineuritis, which spread to the posterior root ganglia and along the spinal roots to the cord. The lesions produced in the central nervous system by lymphogenous and haematogenous infection, respectively, were next contrasted. A haematogenous infection was set up by placing staphylococcus containing capsules in various parts of the abdomen, where they became attached to the mesentery, kidney, bladder or lower border of the stomach. The resulting changes in the spinal cord were found to be totally different from those of lymphogenous infection. Instead of acute inflammatory phenomena affecting fixed tissues and the adventitia of blood-vessels, and distributed over root zones, there occurred primary regeneration of the myelin sheath, associated with oedema, congestion and degeneration of vessels, and proliferation of perivascular neuroglia, distributed round the cord margin and along the postero-median septum. The lesions are similar in kind and distribution to those described in pernicious anaemia and other conditions in which there might be a blood-circulating toxin. Applying the experimental results to the human subject, it was concluded that the intrinsic lesions in dementia paralytica, tabes dorsalis, infantile paralysis and herpes zoster had their genesis in a lymphogenous infection, while those in anaemia, Addison's disease, the cancerous cachexia, etc., pertained to the haematogenous category. An erudite discussion of the origin of the calls composing an inflammatory reaction concluded the paper.

British Medical Association News.

SCIENTIFIC.

A meeting of the New South Wales Branch was held at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, on August 25, 1916, Dr. Sinclair Gillies, the President, in the chair.

Dr. S. Harry Harris read a paper on *acute renal infection in pregnancy and the puerperium*. The text of this paper will be published in next week's issue. There was no discussion.

Dr. E. Ludowici read some notes on the *serum treatment of hæmorrhage in the newly-born*, and a second paper on *Cæsarean section in contracted pelvis* (see page 273).

Dr. John Harris spoke of some remarkable results which he had obtained from the injection of blood into the buttock of infants suffering from hæmorrhage. He had used the father's blood. In reference to the Cæsarean paper, he stated that he had performed this operation but four times for contracted pelvis. In regard to the technique, he had found it advantageous to compress the uterine artery between the finger and the thumb. The incision should be made high up in the fundus.

Dr. Constance E. D'Arcy spoke of two cases in which she had employed the father's blood for the treatment of mælena in infants. She spoke of the risks of giving serum to infants, save from closely related persons. She had been loath to use the mother's blood, both because she did not wish to increase the loss and because of the changes which take place. She had withdrawn 10 c.cm. of blood from a vein, and had injected it immediately before clotting had occurred. An ideal method was to take 20 c.cm., of which half the quantity was given as whole blood. The other 10 c.cm. was put aside on ice, and the serum was injected six hours later. She also spoke of a case of mælena in which she had given coagulose subcutaneously. No further trouble had been experienced.

Dr. W. F. Litchfield pointed out that nearly all infants with bleeding get better without serum. He considered that the previous speakers had had some luck in obtaining these dramatic results.

Dr. E. H. Binney also expressed doubt as to efficacy of the serum treatment of hæmorrhage in children.

Dr. A. J. Spiller Brandon thought that there was some danger of conveying a syphilitic infection from the father to an infant. He considered that caution was necessary in this respect.

Dr. Constance E. D'Arcy read a paper on *dystocia due to ventro-suspension of the uterus* (see page 274).

Dr. John Harris stated that the only case of difficulty he had experienced was the one referred to by Dr. D'Arcy as Colonel Charles MacLaurin's case.

With this exception, his experience of labour in subjects who had previously had ventro-suspension performed was that the birth was somewhat slower than usual. There was a little trouble in getting the after-birth away.

Dr. J. C. Windeyer stated that he had never had any trouble in labour cases after ventro-suspension.

Dr. T. W. Lipscomb read a paper on the *exhibition of drugs in labour* (see page 267).

Dr. John Harris's experience of hyoscyamus in labour had not been encouraging. Possibly this was due to the fact that he liked giving large doses of drugs. His patients had become delirious. He found that doses of $\frac{1}{2}$ to $\frac{3}{4}$ grain of morphine were very useful when called early in labour at night-time. He was able to leave the patient, and, on returning next morning, usually found that the patient had had sleep, and that the labour had progressed satisfactorily.

Dr. J. C. Windeyer was glad to note that Dr. Lipscomb disagreed with the advice contained in an advertisement which had appeared in *The Medical Journal of Australia*. He considered that pituitrin was useful in multiparæ during a slow second stage. He would not advocate it for primiparæ.

Dr. A. J. Spiller Brandon asked Dr. Lipscomb whether he found it necessary for the nurse to watch the patient after morphine and scopolamine had been given. The earlier writers had considered this essential. He differed from Dr. Lipscomb in regard to the value of chloral hydrate. He had found it extremely useful. In regard to pituitrin, he considered that it was especially valuable in breech presentations.

Dr. D. Kelly read a short paper on *adherent placenta* (see page 270).

Dr. John Harris thought that Dr. Kelly had had very good luck in his cases of adherent placenta. He had experienced infinite trouble in getting pieces of placenta away.

In dealing with the question of the necessity of wearing gloves, Dr. J. C. Windeyer stated that he had seen more that had become septic among those who had not been examined or interfered with at all than among those who had been exposed to digital infection. On the other hand, he recognized that the hands were a source of danger, especially when they became cracked and sore.

Dr. A. J. Spiller Brandon stated that he never used gloves. He was of opinion that it was difficult to be certain that the uterus was empty when gloves were worn. He spoke of the extra risk of the re-introduction of the hand for the removal of retained placenta. If the uterus was completely emptied the germs would have nothing to live on.

In his reply, Dr. D. Kelly again stated that, just as a surgeon always wore gloves at an abdominal operation, and by practice was capable of performing delicate manipulation, so the obstetrician should have no special difficulty when carrying out intra-uterine procedures.

The following have been elected members of the New South Wales Branch:—

Dr. G. A. Lawrance, Greenwood, Canley Vale.

Dr. H. A. Ridler, Royal Hospital for Women, Paddington.

Dr. F. N. Rodda, Boundary Street, Roseville.

Dr. O. J. Ellis, "Ravensbourne," George Street, Redfern.

Dr. A. P. Murphy, Royal Prince Alfred Hospital.

Dr. C. G. McDonald, Royal Prince Alfred Hospital.

Dr. D. W. McCredie, Angel Road, Strathfield.

Dr. N. G. Sutton, Royal Prince Alfred Hospital.

Dr. J. M. Maclean, Royal Prince Alfred Hospital.

Dr. C. R. Quinn, Royal Alexandra Hospital for Children.

Dr. C. D. Bateman, c/o T. A. Bateman, Esq., Albion Park, South Coast.

Dr. T. E. Marshall, Fremantle Hospital, Fremantle, Western Australia.

Dr. W. H. Roberts, 26 Wellesley Street, Summer Hill.

Medico-Legal.

THE GRANVILLE ELECTORATE COTTAGE HOSPITAL.

The United Friendly Societies of Auburn and Lidcombe made certain representations to the Minister of Public Health in regard to the practice obtaining at the Granville Electorate Cottage Hospital at Auburn, New South Wales. Acting on the instructions from the Minister, Mr. M. H. Fitzhardinge, S.M., opened an enquiry on July 16, 1916. A considerable amount of evidence was taken, and the enquiry was not concluded until August 7, 1916. As the result of his investigations, Mr. Fitzhardinge issued the following report to the Under Secretary, in the Department of the Attorney-General of Justice. The Under Secretary of the Chief Secretary's Department has forwarded the report to the Secretary of the Hospital without comment.

Report.

Court House, Parramatta,

August, 1916.

Sir,—I have the honour to report that, in compliance with instructions received, I held an inquiry into the charges made by the United Friendly Societies' Dispensary and Medical Board at Auburn against the Medical Superintendent and Committee of the Granville Electorate Cottage Hospital on the 19th, 24th and 25th of July and 7th August, 1916.

Charge No. 1.—Allegations regarding an irregularity in the appointment of a member of the Committee of the Hospital,

that is, that a Mr. Simpson was elected to fill the position of both Trustee and Committeeman, and the President held that both positions could be held by the same person, that

decision having since been held to be erroneous, and the Committee requested to fill the vacancy under Rule 10; but the Representative of the Friendly Societies claims that, as Mr. Simpson should not have been declared elected as a Committeeman, the contributor next on the list at the election, a Mr. Longbottom, should have been declared elected, and that Rules 9 and 10 only give the Committee power to fill vacancies occurring during the year, not to elect a Committeeman to a vacancy caused by an irregularity at the election by the contributors; such a vacancy, it is contended, could only be filled by an election by the contributors.

The Hospital has gone over seven months of the year with its governing body one short, and if it held that the Committee cannot fill this vacancy, the matter might be left until next annual meeting in January, as Mr. Simpson, who was erroneously declared elected, would still take part in the Committee meetings as a Trustee.

The second charge is:—

The unfair treatment of a duly-elected Trustee. To support this charge a Mr. Farrar states he was elected as a Trustee in March last, and attended a Committee meeting in April and took his seat at the table, when the President pointed to a table in the corner of the room, and said, "That is the Trustees' table," adding that Trustees had no vote or voice at the meetings of the Committee; and at the next meeting Mr. Farrar states that he was insulted by the President, who said, "You should resign, as you are not a suitable person to be a Trustee, as you are only acting on behalf of your Lodge and not in the interests of the public or the institution." It is admitted that the President did hold that Trustees had no voice or vote at meetings of the Committee, and did place the Trustees at a table away from the Committee table, and in doing so was following a practice that obtained at the Hospital. This procedure was undoubtedly wrong, and Mr. Farrar was entitled under the rules to take part and vote at the Committee meetings. He, Mr. Farrar, is not supported in any way in his assertion that he was insulted, or even discourteously treated by the President, by any other member of the Committee, and I think that part of the charge might be dismissed.

3. A claim that Lodge Doctors, not B.M.A., be allowed to attend any of their patients in the Hospital.

The only way this could be accomplished would be by appointing the Lodge Doctors to the Staff of the Hospital, which is a matter of management for the Committee, and was dealt with by them in June, 1914, when three Lodge Doctors applied for appointment to the Staff. Then the Hospital Secretary wrote to the Department for an expression of opinion on the position, and received Exhibit 10 from the Under Secretary, declining to offer any suggestions to the Committee, and leaving them to deal with the matter, and the applications were refused. This is a very vexed question, owing to the fact that the Lodge Doctors are not members of the B.M.A., and their appointment would probably cause the present staff of medical attendants to resign.

4. A claim that, in an urgent case, the recommendation of qualified medical practitioners should enable a patient to have immediate admission, whether such doctor be B.M.A. or non-B.M.A.

This position is subject to the comments in No. 3. A patient cannot be admitted by the Matron unless passed for admission by a medical practitioner on the Staff of the Hospital, otherwise the Committee would lose control of the institution, and there appears to be no way of endorsing this recommendation, except by the appointment of the Lodge Doctors to the Staff of the Hospital.

5. Number 5 contains two charges; one is that a patient holding a card for admission from a duly qualified medical practitioner is compelled to go past the Hospital to the private residence of the Medical Superintendent of the Hospital for further examination, and in such a case the patient was charged a fee for such examination.

It appears from the evidence that a patient, Arthur Bultitude, holding a card for admission from Dr. Phelps, a duly qualified medical practitioner, sought admission at St. Joseph's Hospital, at Auburn, and not being able to gain admission there, he said he would try to get into this Hospital, and was told that, as he would have to pass the resi-

dence of the Medical Superintendent, he had better call in and see him, as his order was necessary for admission. Bultitude did call at the doctor's residence, was examined for admission, and subsequently admitted to this Hospital, and Dr. Withers did make a charge of 10s. 6d. for that examination. The matter was reported to the Committee, and they decided they would not interfere with the doctor's private practice. It is quite impossible to reconcile the Committee's decision with the facts, and the President's explanation does not help the matter. Dr. Withers dealt with the case in his residence; but his explanation is entirely unsatisfactory; there is not the slightest justification shown for making the charge, and it should not have been made.

The other portion of this complaint refers to a case of George Wilson, a patient in a very serious condition, suffering from appendicitis. The Matron was rung up before his removal from his residence; she referred them to the Medical Superintendent, Dr. Withers. He was rung up at his residence, and he instructed the gentleman (a Mr. Heard), who was arranging for the removal, to bring the patient to his (the doctor's) residence for examination prior to admission. To do that they had to take the patient some distance past the Hospital on a wet night, the roads being very bad. The patient had to be carried from the vehicle into the doctor's residence, examined, returned to the vehicle, returned to the Hospital and again carried into the Hospital, the doctor finding the case so serious that he decided to operate at 5 o'clock next morning. The doctor's explanation of this is also decidedly unsatisfactory, more especially as the doctor is in receipt of a salary of £100 a year from the Hospital, and the fact that Wilson and his wife inserted an advertisement in the local paper, thanking the doctor and staff of the Hospital for their kindness and attention, does not help the case in any way.

Other matters were brought up at the Inquiry. A Mr. Stapleton gave evidence of three accident cases; two were some considerable time ago, and no names were given, so they could not be traced. The third case was that of a lad, Roy Donkin, who had a fractured forearm. By a misdirection to the cabman, Stapleton and the lad arrive at this Hospital, and Stapleton is told by the Matron that no doctor is on the premises. Stapleton did not ask to have the lad admitted, but took him away to find a doctor. He was subsequently attended at St. Joseph's Hospital and sent home. I do not think there is anything in this case.

A Mr. Knight is called, who states he is in charge of constructional work at the Abattoirs. So far, he has sent his accident cases, few in number (no numbers given), to St. Joseph's Hospital, as that was the practice, as not any case was sent to this Hospital.

All the evidence goes to show that the institution is well managed, and also that a great deal of Dr. Withers' time is taken up in attending to it, so that this is why last year the Committee granted him an honorarium of £100 to make up in some degree for what he was losing.

I have the honour, etc.,

(Sgd.) MORETON H. FITZHARDINGE,
Stipendiary Magistrate.

Special Correspondence.

(By Our Special Correspondent.)

LONDON LETTER.

Epidemic Cerebro-Spinal Fever Among the Troops in the Salisbury Area.

Interesting statements regarding the epidemic of cerebro-spinal fever among the British and Canadian troops stationed in the Salisbury area during the latter part of 1914 are contained in a Local Government Board report issued in May. In his preliminary memorandum Dr. Arthur News-holme, Medical Officer of the Board, says that during the years 1913 and 1914 cerebro-spinal fever prevailed in this country to a somewhat greater extent than had previously been experienced, and in the first half of the year 1915 this increase assumed large proportions. The number of cases

notified were: In 1913, 305; in 1914, 315; and in 1915 the number of cases in the civil population had increased to 2,565. This increase coincided with the military mobilization of a large part of the male population. Dr. R. Bruce Low, writing on the prevalence and distribution of the disease during recent years, says:—

"Although the disease was present in England and Wales during 1914, and before that time, there is suggestion of a fresh strain of infection having been brought from Canada at the end of 1914 to this country by the first Canadian contingent which came to Salisbury Plain to undergo their final military training. It appears that cases had occurred among the Canadians in their camp at Valcartier before embarkation, and that other attacks among them were reported during the voyage to this country and just after their arrival. About 29 cases had been observed among the Canadian troops up to the middle of February, and 25 of them had proved fatal. The predisposition to this infection may perhaps have been increased by the unavoidable overcrowding in camp which at first took place, as also by the occurrence of cold, wet, and inclement weather, and by the unusual exertion and fatigue incidental to the military training of young recruits."

The outbreak in the city of Salisbury commenced on the 15th December, 1914, with the case of a hospital nurse, who was frequently in the company of a young officer of the Canadian Expeditionary Force. After many enquiries this officer was visited, and a swab was taken from his throat. The cultures showed infection of his throat. In the circumstances, and lacking any other known source of infection, it does not seem unreasonable to suppose that the earliest known of the cases that occurred in the outbreak in this epidemic had its origin from this officer.

The Discharge of Unfit Units from the Army.

One result of the rapid creation of a new army which the war has imposed upon this country, is the discovery that a considerable number of men who joined the ranks in the early days are now becoming unfit from the hardships of drill and unaccustomed exercise, together with the strain and excitement of participation in actual events of war. Most of these men were apparently well when they enlisted, and passed the medical examination necessary for their acceptance as soldiers. The medical test, however, was not a searching one, and the need for an augmentation of numbers within as short a time as possible probably led to more perfunctory examinations than were desirable. The consequence of this has been that, in many instances, men have developed organic weakness of some sort, which may have been latent previously, but has become active in consequence of the conditions of life and activity which belong to a soldier's training. This may involve considerable and unfair hardship, because it may be impossible to say that the disease or disability complained of has been the result of military duty, though it may have been brought to light or aggravated by it. If such a man is discharged from the army as unfit for further service on account of his health, his incapacity may not be admitted by the authorities as the direct outcome of his soldiering, and so he may be ineligible for a pension. Such a man might have lived in his ordinary employment well into old age, but the patriotic spirit that prompted him to "do his bit" as a soldier is apt, under such circumstances, to condemn him to a reputation of invalidism which may debar him, not only from army work, but also from many forms of civil employment.

It is to be hoped that cases of this description will be, at some subsequent time, reconsidered, and where the facts point to war-service as being even contributory to the state of health which caused his discharge from the army, that such a man shall be suitably provided for on equitable terms, just as his neighbour, who, by statute, earns a pension because he was permanently maimed or injured by a bullet.

Many a man may have hesitated hitherto to offer himself as a recruit because of his knowledge that his limitations of strength would not stand the fatigue, but with compulsory service immediately ahead of us, it is inevitable that a larger number than ever of potentially unfit men will be added to the ranks of our various regiments.

Surely there ought to be some provision whereby all recruits will be assured that compensation will follow on disease as well as on battlefield injury, once they have been approved by the military doctor and accepted for ordinary training.

In reference to this important matter, the *Lancet* tersely says:—

"To compel a man to serve in the army as being one physically qualified to do so, and then to discharge him from it with broken health and without compensation, would not be fair treatment; and the disabled soldier has the best possible claim to be treated not merely with fairness, but with generosity."

The Exemption of Doctors from Military Service.

On the motion of Lord Sandhurst, in the House of Lords on May 22, 1916, the following clause, which is of much importance to medical men, was added to the Military Service Bill:—

"Regulations made under the second schedule to the principal Act shall provide for the establishment of professional committees to deal with claims for exemption made by duly qualified medical practitioners; and any application made by such a medical practitioner on any ground, other than that of conscientious objection, for a certificate of exemption shall be referred by the tribunal to whom it is made to such a committee in accordance with those regulations; and the recommendation of the committee on the application shall be binding on any tribunal constituted under the principal Act."

A large number of exemptions from compulsory service have already been obtained by doctors from local tribunals, but, since it must be very difficult for laymen who have no experience of medical practice or of public requirements to adjudicate upon the question of whether a doctor's value to the common cause is greater as a soldier or as a civilian practitioner, it is likely to be most satisfactorily decided by those who are intimately familiar with the relationships of medicine to the public needs on the one hand, and the demands of patriotism on the other. It is obvious that every application for exemption must be decided on its merits, and a professional committee is much more fitted to estimate the circumstances fairly and equitably than a lay tribunal. The institution of professional committees is a move in the right direction, and is only an extension of a system already in existence, which the Government has hitherto utilized for the selection of doctors suitable for service with the naval and military forces. There are three existing Committees, *viz.*, the Central Medical War Committee; the Committee of Reference of the Royal College of Physicians and Surgeons of London; and the Scottish Medical Service Emergency Committee; all of which have already done excellent organizing work.

The Prevention of Venereal Disease.

The first annual meeting of the National Council for Combating Venereal Diseases was held in the Barnes Hall of the Royal Society of Medicine on June 23, 1916. Sir Thomas Barlow presided, and, in moving the adoption of the Executive Committee's report, called attention to the important features of the work accomplished by the Council since it was constituted in November, 1914. He stated that over a thousand lectures had been given throughout the country, and that many useful conferences with health and municipal authorities had been held.

On the motion of the Bishop of Southwark, Lord Sydenham was elected first President of the Council. He delivered an address, in the course of which he said he regarded the appointment of a Royal Commission on the subject of Venereal Diseases as a very important step in our national life, because it was evidence of a widespread desire that an organized attempt should be made to control a scourge which exerted more important influence on the destinies of both the nation and its vigour than was fully appreciated. The Commission had found great difficulty in obtaining accurate statistics as to the prevalence of these diseases among the civil population, owing to the attitude of the public mind towards them, and to the fact that there was so much concealment; but it was possible to get reliable information in the case of the Navy and the Army, and

the problem of treatment was very much simplified in dealing with men under discipline. In both public services much had been done to diminish the incidence and prevalence of any form of venereal disorder. In the war which was now being waged the loss was falling most heavily on our best manhood; on those most fitted to transmit the qualities of our race to their children, while the employment of women in industrial work was not conducive to motherhood or to the production of healthy children. When peace returned we should stand in direct need of a nation fitted to repair the ravages of war, and in the rebuilding of our national prosperity it was of the highest importance that every cause of racial disability should be removed. When we had the remedies and the knowledge at our hands it would be criminal not to use them, and certain facts ought to be made known to all parents, to all persons charged with the responsibilities of education, to all young men entering on their path in life, and to all young women when they were leaving the protection of their homes. In the future it might be necessary to take steps for the suppression of quack advertisements, and to introduce certain modifications in the marriage laws.

Increase of Juvenile Crime.

Sir Edward Troup, the Permanent Under-Secretary for Home Affairs, has addressed an important circular letter to Justices of the Peace on the subject of the recent serious increase in juvenile crime throughout the United Kingdom. The number of thefts is half as large again as it was a year ago, and there is also a notable increase of assaults, malicious mischief, and other offences. Sir Edward Troup deals impressively with the part played by the cinema theatre, and regards it as a direct agency in promoting youthful delinquencies. He premises that enquiries in seventeen of the largest towns show the number of child offenders in given periods have increased from 2,686 to 3,596. There is an increase of nearly 50% in cases of larceny.

Some of the causes, such as the absence of parents, and the weakening of parental control, are the inevitable results of the war, but there are others.

It is suggested that women might with advantage be employed as probation officers more often than at present. He continues:—

Many Chief Constables of large towns and other persons interested in the welfare of the young, have represented that children are led to commit offences by witnessing cinematograph films depicting crimes, the use of firearms, etc., and that children often steal money in order to obtain admission to cinemas.

The whole question of the censorship of films is under consideration by the Secretary of the State, but he thinks that where the Justices are the licensing authority under the Cinematograph Act, 1909, special attention should be given to the nature of the films which it is proposed to show at children's performances.

Much harm has resulted to young persons from automatic gaming machines; but this evil has, to a large extent, been met, owing to greater activity on the part of the authorities and to decisions of the Courts which have been of assistance. Where the evil continues the remedy seems to be to make greater use of the powers of prosecution.

It is reported that in some places boys are running wild, owing to the work of boys' clubs being crippled by want of staff. Many of the men who usually give time to these clubs are now serving with the forces, or are engaged in munition work. The loss of the influence on the boys of the club and its interests is very great, and the Secretary of State thinks that if the Justices could induce suitable people to engage in this work, and so keep available places to which boys can with advantage resort in the evening, the benefit to the boys and to the public would be very great.

King Edward's Hospital Fund.

The annual meeting of the Governors and General Council of King Edward's Hospital Fund for London, to receive the accounts and the report for the year 1915, was held at St. James's Palace on May 24, 1916, the Speaker presiding.

Lord Revelstoke, in presenting the accounts for the year ended December 31, 1915, said the income from investments

was larger than ever before. That was primarily due to the receipt of a full year's income from the first instalments of the Wernher legacy. Out of the whole of the revenue from the investments under the care of the Finance Committee, amounting to £97,000, the total loss to the income for the year through failure to pay interest or dividends since the war began amounted to less than £800, and that diminution of income was due to the non-receipt of interest or dividends on certain securities which were acquired by the Fund as gifts or legacies from various donors, and for the purchase of which the Finance Committee were not responsible. After income from investments had been taken into account, a sum of about £50,000 had still to be raised, in order to maintain the distribution at last year's figure, without allowing for any increase in the needs of the hospitals. The Fund held on December 31st a large amount of War Stock. The greater part represented investment, while the balance was derived from the conversion of Consols received from various executors in the past. The Fund also held large amounts of Treasury Bills and Exchequer Bonds. Since the beginning of this year the Fund had been notified by Sir Walter Trower of the bequest of the residue of the estate of the late Dowager Lady Wilton. The total residue was estimated to be about £150,000, and they had already received £100,000 on account. The question of how to apply that sum would not come up until the autumn, and, in the meantime, the Finance Committee proposed to deal temporarily with the cash to the best of their ability, without prejudice to any future decision which might be taken by the Council.

The accounts were adopted, on the motion of the Speaker, seconded by Sir T. Vezey Strong.

Sir Savile Crossley presented the draft report of the Council for the year, the main feature of which related to the receipts for 1915. They amounted to no less a sum than £226,799 19s. 5d., of which £12,949 17s. 9d. were contributions to capital and £213,830 1s. 8d. receipts on general account. The General Fund receipts were made up as follows: Annual subscriptions, £25,724 16s. 11d.; donations, £5,360 16s. 3d.; contribution from League of Mercy, £14,000; special donations from Sir Ernest Cassel (4½% War Stock), £28,000; from the Lewis Estate, £34,121 8s. 1d.; other legacies, £4,412 10s. 7d.; dividends and interest from investments, £97,218 1s. 9d.; dividends and interest collected in 1915, but relating to 1914, £4,792 8s. 1d.; from the trustees of the Bawden Fund, £200; making a total of £213,830 1s. 8d.

Sir William Church presented a report on the expenses of the Bland-Sutton Institute of Pathology at the Middlesex Hospital, recommending that the scheme of apportionment between Hospital and Medical School now submitted by the Hospital for the year 1915 should be accepted by the Fund.

The Speaker, in acknowledging a vote of thanks, said he thought they must prepare their minds for the fact that, as the war continued, the margin of eleemosynary funds available for the general charities of the country must shrink to a considerable extent. This margin had been largely drawn upon, and, as time went on, it would be still more largely drawn upon, and no doubt the Fund would be amongst the sufferers. Fortunately, up to the present, they had got through their difficulties extraordinarily well, but they must not be disappointed if at the meeting next autumn or this time next year they found a considerable shortage.

Correspondence.

ASTHMA: ITS CAUSE AND TREATMENT.

Sir,—Francis is quite wrong, in my opinion, in not recognizing the rôle played by polypi and nasal obstruction. We must obtain a nose as perfect as surgery and medication can make it before attempting any serious treatment of asthma. Dr. Stewart should not assume that any of Francis' cases had healthy noses. I only advocate adopting his treatment in a healthy nose.

Whatever the primary factor may be, it is universally conceded that an irritated nasal mucosa plays an important part in asthma, and everything must be done to reduce that irritation, whether caused by a deflected septum, a mucous polyp or pus from a sinus. I only adopted a sarcastic tone

towards Dr. Ewbank when he assumed an attitude of omniscience in reply to my request for further details in support of his extraordinary figures. If Dr. Ewbank's paper was written to help other works he should give some data believing in asthma spots. I again challenge him to publish details of his cases to substantiate his figures, or bring some cures up to the Society.

Yours, etc.,

W. KENT HUGHES.

22 Collins Street, Melbourne.

September 23, 1916.

Proceedings of the Australasian Medical Boards.

QUEENSLAND.

The following have been registered under the provisions of the "Medical Act, 1867," as duly qualified medical practitioners:—

Jamieson, Hugh Hunter, Brisbane Hospital, M.B., Ch.M., Univ. Syd., 1916.

O'Keeffe, Edward Joseph, Ipswich, M.B., Ch.B., B.A.O., Nat. Univ. Irel., 1914.

Medical Appointments.

Dr. H. W. Conolly has been appointed Government Medical Officer at Cobar, New South Wales.

Dr. Joseph English has been appointed a Deputy Licensing Magistrate of the Licensing Court, Yass, New South Wales.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xix.

Ballara District Hospital, Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.

APPOINTMENTS.

VICTORIA.

(Hon. Sec., Medical Society Hall, East Melbourne.)

Brunswick Medical Institute.
Bendigo Medical Institute.
Prahran United F.S. Dispensary.
Australasian Prudential Association Proprietary, Limited.
National Provident Association.
Life Insurance Company of Australia, Limited.
Mutual National Provident Club.

SOUTH AUSTRALIA.

(Hon. Sec., 3 North Terrace, Adelaide.)

The F.S. Medical Assoc., Incorp., Adelaide.

QUEENSLAND.

(Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)

Brisbane United F.S. Institute.

Branch.

WESTERN AUSTRALIA.

(Hon. Sec., 230 St. George's Terrace, Perth.)

APPOINTMENTS.

Swan District Medical Officer.
All Contract Practice Appointments in Western Australia.

Department of Public Instruction—New Appointments as Medical Officer.
Ophthalmic Surgeon, Ear, Nose and Throat Surgeon, Physician.
Australasian Natives' Association.
Balmmain United F.S. Dispensary.
Canterbury United F.S. Dispensary.
Leichhardt and Petersham Dispensary.
M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney.
Marrickville United F.S. Dispensary.
N.S.W. Ambulance Association and Transport Brigade.
North Sydney United F.S.
People's Prudential Benefit Society.
Phoenix Mutual Provident Society.
F.S. Lodges at Casino.
F.S. Lodges at Lithgow.
F.S. Lodges at Orange.
F.S. Lodges at Parramatta, Penrith, Auburn, and Lidcombe.
Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.

NEW ZEALAND: WELLINGTON DIVISION.

(Hon. Sec., Wellington.)

F.S. Lodges, Wellington, N.Z.

Diary for the Month.

- Oct. 3.—N.S.W. Branch, B.M.A., Council (Quarterly).
- Oct. 4.—Vic. Branch, B.M.A., Branch.
- Oct. 6.—N.S.W. Branch, B.M.A., Annual Meeting of Delegates of Local Associations with Council (First Day).
- Oct. 6.—Q. Branch, B.M.A., Branch.
- Oct. 7.—N.S.W. Branch, B.M.A., Annual Meeting of Delegates of Local Associations with Council (Second Day).
- Oct. 10.—N.S.W. Branch, B.M.A., Ethics Committee.
- Oct. 10.—Tas. Branch, B.M.A., Council and Branch.
- Oct. 12.—Vic. Branch, B.M.A., Council.
- Oct. 13.—S. Aust. Branch, B.M.A., Council.
- Oct. 13.—N.S.W. Branch, B.M.A., Clinical.
- Oct. 17.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
- Oct. 18.—W. Aust. Branch, B.M.A., General.
- Oct. 20.—Q. Branch, B.M.A., Council.
- Oct. 20.—Eastern Suburbs Med. Assoc. (N.S.W.).
- Oct. 20.—N.S.W. Branch, B.M.A., Branch (Adjourned from September 15).
- Oct. 21.—Northern Suburbs Med. Assoc. (N.S.W.).
- Oct. 25.—Vic. Branch, B.M.A., Council.
- Oct. 26.—South Aust. Branch, B.M.A., Branch.
- Oct. 27.—N.S.W. Branch, B.M.A., Branch (Ordinary).
- Oct. 31.—N.S.W. Branch, B.M.A., Medical Politics Committee, Organization and Science Committee.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.